THE EFFECTS OF EXPRESSIVE AND NONEXPRESSIVE CONDUCTING
ON THE PERFORMANCE ACCURACY OF SELECTED EXPRESSION MARKINGS
BY INDIVIDUAL HIGH SCHOOL INSTRUMENTALISTS

DISSERTATION

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By

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CHAPTER I
INTRODUCTION

Conducting music ensembles is regarded as one of the most demanding roles in the music profession. Conducting involves a variety of highly developed skills such as pitch discrimination, score reading, eye-hand coordination and musical memory, to mention a few. Indeed, as Elizabeth Green (1969) states at the outset of her book, The Modern Conductor, the art of conducting "is the highest, most complex synthesis of all facets of the musical activity and should be so regarded by anyone dedicating himself to the profession of the baton" (p. 23).

A conductor's primary function or purpose is to assist musicians in translating musical symbols from the written page into meaningful sounds. All study and training is directed to this end, whether the type of ensemble conducted is a school group or a professional orchestra. While some modifications or alterations in rehearsal techniques may be necessary, depending upon the type of ensemble, the primary goal remains the same - the transformation of the written musical symbol into musical expressions in sound.

The practical and artistic importance of a conductor is both obvious and subtle. Every gesture including movements of the body, facial expressions and eye contact, can have a dramatic effect on the
players and the performance. Green (1969) strongly believes that the conductor's slightest gesture will have an impact on players that have been trained to watch. It seems clear that if a conductor expects his performers to respond to his gestures, he must train the ensemble to watch the conductor carefully.

Among the first indications regarding the importance of a conductor to the performance of a musical composition is found in Berlioz' (1910) treatise on conducting in which he stated that "an efficient conductor is important as an intermediate agent between the composer and the audience." Many conductor/authors through the years, have reaffirmed the belief that the conductor is a significant influence upon the final musical outcome of the performance. Among these conductor/authors is Bowles (1975) who suggests that:

the concept of the interpretation of music may be divided into two parts. The first is complete when the interpreter becomes possessed of the composer's thought; the second, when he conveys that possession to the players and to the listeners. To convey his possession to the players the conductor may use verbal explanations in rehearsals, but of course he must depend solely on gesture during a performance. (p. 86)

He further believes that:

eyery element of music except the sound of it, can be translated into gesture and...that a conductor's gestures ought to be effective for the sake of the players, illustrative for the sake of the audience, and...not so flamboyant as to obtrude themselves between the players, the audience and the music. (p.98)
Need for the Study

The relative importance of conducting technique and rehearsal technique remains a critical issue for conductors, educators and conducting teachers. There has been relatively little research to determine whether the success of a performing group is due to excellent rehearsal techniques, to superior conducting techniques, or to a combination of both.

It is not uncommon to hear an ensemble which performs expressively under a conductor whose visual gestures seem not commensurate with the results. Conversely, one can hear poor performing ensembles with conductors whose appealing gestures would suggest a more corresponding result. In live performances, listeners may sometimes listen with their eyes. When sounds do not match gestures, one must assume that either rehearsal techniques are responsible for the discrepancy or, perhaps, the ability level of the ensemble is mitigating the effects of conducting and rehearsing. Research is needed to enlighten the profession on these issues.

The influence of expressive conducting upon the performers themselves, of course, precedes its potential effects upon listeners. Interestingly, little research has been conducted which examines the relative effects of expressive conducting compared to nonexpressive conducting. At the same time, conducting and rehearsing have been investigated to some extent over the past several years.
A study conducted in 1985 by Naderi provided a format for observation and study of rehearsals. The study was designed to describe, evaluate, and systematize rehearsal techniques in four general areas: (1) visual, (2) verbal, (3) use of time, and (4) conductor’s nuance. This rehearsal observation instrument provides a framework for what to watch for in a typical band rehearsal. One can use it as a simple observational technique or for an in-depth study of rehearsal techniques.

Several other studies employing observational instruments for the analyzing and/or codifying of rehearsal techniques have appeared in the research literature on a regular basis during the past twenty years (Vereen, 1968; Papke, 1972; Thurman, 1977, Pontius, 1982, Patterson, 1985).

Sherrill (1986) and Yarbrough/Price (1981) used video tapes to examine the relationship between rehearsal behaviors and certain conductors’ behaviors. In a number of related studies, (Carpenter, 1986; Yarbrough, 1975; and Price, 1981) investigators have attempted to examine the effects of certain student/conductor behaviors on performing ensembles in order to have a better understanding of the dynamics involved in a conducting performance ensemble situation.

The studies cited thus far generally have focused on one of two purposes: (1) to list or categorize a number of rehearsal techniques used by a number of successful band directors (Vereen, 1977, was able to categorize 275 rehearsal techniques discovered from surveying and interviewing band directors, music teachers and college professors)
and (2) to analyze various conductor behaviors and their effect on the performing ensembles. Although these are important issues which need to be researched, there have been relatively few studies which have addressed the effects of conductors' nonverbal behaviors on the performing ensemble.

How important are the conductor's nonverbal behaviors (expressive conducting gestures) to the appropriate rendering of the corresponding expression marks indicated in the performers' music? Is the individual performer able to render an appropriate performance of the expression marks indicated in his music without the visual reinforcement and assistance of his conductor? It seems clear that if a conductor can express, through nonverbal gestures, what would otherwise be verbalized, a considerable amount of rehearsal time would be saved. This time could then be used for more in depth rehearsal and even greater musical results.

George Szell, in the Foreword to Rudolf's Grammar of Conducting (1950), stated: "since the demand for technical perfection of performers has not always been accompanied by a proportional increase in rehearsal time, a high degree of virtuosity in the handling of the baton is even more imperative than ever"(p. vii). Though this comment was no doubt in reference to the professional orchestras, it can apply to the high school or college band ensemble as well.

Two major advantages of being able to express minimal directions to an ensemble through nonverbal conducting gestures are: (1) a more efficient use of rehearsal time can be realized; and 2) a more artistic rendering of the music can be expected. Rudolf adds:
To obtain an artistic result, a conductor must be able to communicate nuances in dynamics, details of phrasing, articulation (legato and staccato) and general expression. Time beating is not enough. Appropriate gestures for each musical expression must be mastered before we can speak of conducting. (p. 2)

Research on the importance of expressive gestures is needed in order to reinforce or question the value of developing and using these visual signals.

Statement Of The Problem

The ensemble rehearsal is an important aspect of the teacher/conductor - ensemble relationship. There are many complex issues involved in the conductor-rehearsal situation. Researchers have studied many aspects of this interaction and have reported several interesting findings. Menchaca (1988) found that high school teacher/conductors use verbal instruction most often when solving musical behavior problems and that the percent of conductor attention to the expressive elements was low. There was a strong suggestion that instrumental conductors should teach "higher order" musical elements such as phrasing, in order to help students feel they are learning about the music.

Taylor (1989) also found that band conductors tend most often to address dynamics, articulation styles, and rhythms at rehearsal stops, with the least amount of time spent on phrasing and tone quality. When assessing the findings of these previous studies, the age group of the research subjects may need to be given some consideration.
The population samples in both Menchaca’s and Taylor’s studies involved secondary school instrumental teacher/conductors and their bands. One could present the argument that because of the level of the performing ensemble, more attention needed to be devoted to fundamental playing skills such as using correct fingerings and playing accurate rhythms rather than working with the expressive qualities of the music. However, despite the apparent need for better quality teaching and training of fundamental playing skills in the beginning stages, conducting gestures in rehearsals would seem to increase rehearsal efficiency at any level while also helping the student realize the expressive qualities of the music.

Herman Scherchen (1933), in his Handbook of Conducting, suggests that:

the conductor has three methods of conveying his intentions; (1) representative gesture, (2) expressive mimicry, and (3) an explanatory speech. The first alone is important; mimicry and words are of questionable value and may hamper as well as help. Words, moreover, can be used at rehearsal only. (p.14)

Assuming the conductor is able to accurately portray appropriate conducting gestures in a rehearsal setting, is the performer able to respond appropriately to each gesture? Taylor (1989) explored this question by focusing on three selected articulation styles (marcato, staccato and legato) and proceeded to examine the effects of a sensitizing procedure used by high school band directors on the ability of ensembles to perform in those styles. He found that the sensitizing technique used in his study had no significant effect on the performance accuracy of the three articulation styles examined. In addition, if a sensitizing
technique can be effective, the procedures, treatment period necessary for such an effect, and the process for measuring a possible effect is not clear.

Moss (1989), in a related study examined four approaches to rehearsing an ensemble. By comparing the number of repeated attempts (trials used to improve critical passages prior to the conductor’s decision to move on to other passages under four rehearsal strategies) the researcher sought to determine what types of rehearsal methods were best suited for solving common types of problems in instrumental rehearsals. The four rehearsal approaches included: (1) use of standard rehearsal techniques paired with appropriate conducting; (2) use of standard rehearsal techniques paired with inappropriate conducting i.e., mere time beating; (3) repetition of critical passages paired with appropriate conducting, and (4) repetition of critical passages paired with inappropriate conducting. He found that rehearsal effectiveness and rehearsal efficiency may not be synonymous; conductors tend to pursue more attempts to solve problems when using a technique they feel is effective; and the degree to which appropriate baton technique makes a substantial difference in the effectiveness and efficiency of rehearsal progress is unclear, and may, in part, be due to the playing level of the performing ensemble.

One of the principal motivations for the undertaking of the previous two studies was to investigate the extent to which appropriate conducting gestures were significantly influential in eliciting proper musical responses from the respective performing
ensembles. Both studies used intact ensembles to serve as the population sample and evaluative and observational results were based on the performing ensembles as a whole unit rather than as individual performers.

The research proposed in this study will focus on the individual responses of high school instrumentalists to expressive conducting gestures. It is slightly misleading to draw conclusions regarding the effect of expressive conducting based on research which includes the full ensemble response. Accordingly, it is difficult to determine the extent to which each individual, as a part of that ensemble, is able to respond appropriately to the expressive conducting gestures.

**Purpose of the Study**

Previous research has revealed equivocal findings concerning the relative effects of expressive and nonexpressive conducting on performance variables. The purpose of this study was to determine the extent to which individual high school band musicians were able to respond to indicated expression markings in the music while simultaneously following the conducting gestures of the conductor. If students perform more accurately when provided with visual signals which correspond to the expressive markings, the need for expressive conducting would be underscored.

A secondary purpose of the study was to determine if there are significant differences in the performance of the selected expressive markings, with and without expressive conducting. And finally,
differences in schools used in the study were examined as well as
potential interactions with the other variables.

The design of the study led to the development of several
dependent measures which, in turn, allowed for additional purposes.
First, it was felt that the student should have a clear understanding
of each of the expressive markings if they were to be expected to
perform them accurately. Therefore, a multiple choice quiz was
constructed and given to each of the students who participated in the
study to determine their cognitive knowledge of eight expressive
markings. Moreover, it was also considered important to determine
the ability of the student to perform the markings on a single pitch,
unencumbered by notes and difficult rhythmic patterns in a melody.
Therefore, data were obtained on the application of knowledge to
practice and these results could be compared as a function of
independent variables. Evaluations of the single pitch exercises
were, in fact, intended for use as a covariate in the analysis of the
results.

Research Questions

(1) Is there a significant difference in the performance
accuracy of selected expression markings as rendered by high
school musicians in response to two separate conducting
conditions: (a) conductor using expressive conducting gestures
and (b) conductor using nonexpressive (time-beating) gestures?
(2) Are there significant differences among the performance
accuracies of eight selected expression markings?
(3) Is there a significant difference among the performance accuracy of expression markings across the four schools?

(4) Is there a significant interaction between the conducting condition (expressive or nonexpressive) and the eight expression markings? Which markings seem significantly aided by expressive gestures?

(5) Is there a significant interaction between conducting condition and school?

(6) Is there a significant interaction between the select expression markings and the four schools?

(7) Is there a significant interaction between the conducting condition (expressive and nonexpressive), the eight selected expression markings and the four schools.

In addition, the following sub-questions were also addressed in the study:

(1) Are there notable demographic differences among the band subjects who participated in this study from the four different schools? To what extent, if any, do these differences affect the performance accuracy of the selected musical expression markings, regardless of conducting conditions?

(2) Is the ability and skill to perform the selected expression variables in this study related to the accurate performance of the same variables within the context of a melodic line?

(3) Is there a notable difference between the total performance accuracy of woodwind performers and brass performers across the four schools?
(4) To what extent does knowledge and cognitive understanding of the expression variables seem to affect the performance accuracy of each musical marking irrespective of expressive and nonexpressive conducting gestures?

Assumptions

Due to the nature of the investigation, several assumptions had to be made before the research could be conducted. These are listed as follows:

(1) Before being tested on performance accuracy of expression markings, students were rehearsed on the project(test) melodies for five minutes during one regular rehearsal. Music score and parts were unmarked so that only the notes and elementary rhythms were practiced. It is assumed that the allotted time for the review of the melodies was sufficient to correct all potential note and rhythmic errors.

(2) The students were then allowed an additional two days in which to practice the melodies to a point where each felt reasonably comfortable with all the notes and rhythms. The assumption was made that each student did practice and subsequently was able to play the four melodies free of note and rhythm errors.

(3) Although the experimenter was the conductor, it was assumed that experimenter bias was mitigated by the fact that each student served as his own control and that the two principal conditions of conducting (independent variable) to which each
student was required to respond, were presented by the same source, the conductor/researcher.

(4) A video recording of the two conditions of conducting, in which either expressive conducting gestures or nonexpressive beat patterns were videotaped by the conductor/researcher, was assumed to sufficiently approximate conditions in a typical high school band room, with a black board serving as a back drop and the music placed on a conductor's stand.

Definition of Terms

Population Sample: subjects used for this experimental study included members of four high school bands which had received "Superior" ratings as participants in the Ohio Music Education Association (OMEA) Contest in the "B" classification. Each member served as both the experimental and control variable.

Expression Markings: musical terms namely legato, staccato crescendo, diminuendo, fermata, accelerando, ritardando, and marcato, used throughout the study. These were standard markings inserted into the four project (test) melodies and used in the single pitch exercises.

Expressive Conducting Gestures: the conductor's carefully planned physical movements, involving the fingers, hands, arms and upper body, used in such a manner as to visually portray in time and space the musical expression marks-staccato, legato, marcato, diminuendo, crescendo, accelerando, ritardando, and fermata as indicated in the four test melodies.
Nonexpressive Conducting Patterns: the conductor's mere time beating of patterns according to the time signatures of the four test melodies. A conscious attempt was made to portray the conducting patterns as nonexpressively as possible. No expression markings were indicated by the gestures.

Musical Marking Survey: A nine question, multiple choice quiz which contained questions related to the eight expression marks found in each of the four project (test) melodies. The ninth question, closely related to the eight expression marks, was added so that each question would have the same number of answers from each choice category, for example, each question would have either three "A" answers, three "B" answers, or three "C" answers totaling to nine answers.

Single Pitch Exercises: A group of eight four measure exercises consisting of a single pitch arranged in a simple basic rhythm pattern. Each exercise contained one of the eight expression marks.

Project (test) Melodies: A group of four sixteen measure melodies in 4/4 time composed especially for this study. The eight expression marks examined in this study were placed within the context of each melody in a manner which was judged to make musical sense.

Limitations

The results of this study can only be applied to the same eight expression marks used in the treatment procedures.

Conclusions drawn as a result of this study can be generalized only to populations similar to those used in this study, i.e., high
school band student (9-12 grade) having achieved "Superior" ratings on performance of Class "B" music in the Ohio Music Education Association District Large Group Competition.
CHAPTER II
REVIEW OF LITERATURE

The amount of literature which is devoted to the general field of music education is fairly extensive. For the purpose of this study, the literature survey was confined to the areas of teacher/conductor behaviors/baton technique/conducting gestures and related topics and ensemble rehearsal/performance situations and related topics. A great deal of information related to these topics was found in research studies, in articles written in professional journals and periodicals, and in textbooks.

Discussion of the literature surveyed will begin with mention of several studies focusing on the relationship of aesthetics to performance, i.e., a brief investigation of the development of aesthetic sensitivity to music. The general area of discussion will include studies which focus on: (1) observation instruments used to increase rehearsal effectiveness, and (2) rehearsal techniques.

Finally, the review will center around a number of research studies which deal with several aspects of conducting including: (1) general literature on conducting, (2) improving curriculum and methods in colleges and universities, (3) conductor training, (4) observation
instruments related to conductor effectiveness, (5) discussion of body movement as it is related to conducting technique, (6) effects of concurrent variables on performing skills, (7) relative effects of conductor behaviors and selected rehearsal techniques, and (8) effects of conductor behaviors on rehearsal efficiency/effectiveness and performance quality.

Articles found in professional journals and periodicals pertaining to conducting techniques and rehearsal techniques and other related topics were written by authors whose advice and opinions are based on their professional training and education and on their personal experience. Much of the information from these sources will be discussed along with the research studies.

The survey will close with a review of several textbooks containing information related to the topic of conducting.

**Relationship of Selected Variables on Aesthetics**

Anderson (1981) felt that music literature was an important factor in developing aesthetic sensitivity to music. A review of pertinent literature for his study led to several determinations:

(1) There is wide acceptance of the philosophy that the primary purpose of music education should be the development of aesthetic sensitivity to music; (2) the goals of performance organizations are identical to the goals and expectations of
the music education program in general, that is, the
development of aesthetic sensitivity for all individual
participants; and (3) research of an objective and definitive
nature is vitally needed to the development of aesthetic
sensitivity. (p. 79)

Each of the three determinations stated is more or less
directly related to the research described in the present study. The
research seeks to determine whether a conductor's expressive gestures
are able to elicit greater appropriate responses from the performers
and in turn would result in the development of aesthetic sensitivity
to the music. If each participant is able to respond more
appropriately to the conductor's expressive conducting gestures,
which are visual portrayals of the expressive qualities indicated by
the music, then the goals of the performing organization, identical
to the goals of music education, are being met.

One of the results in Anderson's research demonstrated that
"performing organizations can serve as a vehicle for the development
of musicality and aesthetic sensitivity"(p. 83). Anderson indicates
that valuable future research could determine how some of the
teaching methods or rehearsal techniques could influence the
development of musicality and aesthetic responsiveness.

**Observation Instruments For Rehearsal Effectiveness**

Rehearsal techniques are an important aspect of the
conductor-performer relationship. A decision must be made as to what
type of rehearsal procedures are to be used and how are they to be
organized within the allotted time frame of the rehearsal in order to
achieve the most satisfying musical results. The conductor plays a major role in the ensemble rehearsal.

A number of rehearsal techniques such as type of conducting gestures used to accomplish musical goals, amount of time spent verbalizing musical instruction, and type of teaching techniques namely modeling, verbalization, singing melodic lines, and clapping rhythmic patterns, are utilized in ensemble rehearsals not unlike teaching methods are used in the normal classroom situation. Useful observation instruments have been constructed by researchers during the past twenty years for the purpose of identifying, organizing, analyzing, and evaluating various rehearsal techniques used by band directors.

Vereen (1968) decided to codify a number of pertinent rehearsal techniques for symphonic band, in one specific source. A basic list of 275 rehearsal techniques was discovered from surveying and interviewing band directors, music teachers, and college professors throughout the country. As a result of this research: (1) items believed to be most important to rehearsal techniques for symphonic bands were codified and collated; (2) statistical analysis was furnished for each item by grade level category; and (3) possible curriculum content for education courses was isolated for possible utilization in the teaching of future band directors.

Papke (1972) investigated the rehearsal behavior of instrumental music directors utilizing an evaluative instrument developed by the author. The purpose of his study was to examine rehearsal climate, rehearsal effectiveness in instrumental techniques and music
education, and director rehearsal behavior including director verbalization primarily in reference to instrumental skills, related material to instrumental skills, and primarily music education materials for purpose of self evaluation. The evaluative instrument used was the Papke Instruments For Evaluating Rehearsals (PIER). The researcher recommends more self-evaluation of rehearsal behavior using PIER as an aid.

A more recent study by Naderi (1985) provides a format for observation and study of rehearsals in which the instrument describes, evaluates, and systematizes rehearsal techniques in four areas of rehearsal: visual, verbal, use of time, and conductor's manner.

Among the stated hypotheses were: (1) that the effectiveness of visual technique is related to its expressiveness and number of beat characteristics used and (2) that the use of time is related to the proportioning of time devoted to visual and verbal techniques. Rehearsal techniques were studied in the conducting literature and in the practices of three contemporary orchestra conductors. The rehearsals were video taped, then viewed and evaluated by eleven experienced musicians who were members of major symphony orchestras.

Of the four areas of rehearsal procedures, the judges preferred the visual techniques. The judges also preferred statement types that take a short time to deliver, especially the positive statements. The perfect use of time is characterized by spending 80% of rehearsal time in playing, according to this study.
Rehearsal Techniques

Studies by Thurman (1977) and Pontius (1982), similar in many respects, investigated a number of selected rehearsal behaviors in performing groups. Thurman analyzed the rehearsal behaviors of five choral conductors to determine, in terms of frequency and time, the extent to which the following conductor behaviors were used in rehearsals: (1) verbal communications, (2) statement references to seven elements of choral performances namely pitch, time, dynamics/phrasing, text/diction, tone color, style, and vocal production; (3) demonstrations through verbal explanations and verbal imagery, (4) verbally expressed approval/disapproval feedback, (5) conducting and/or monitoring of rehearsal trials, and (6) involvement with one vocal part, more than one vocal part, less than a musical phrase, a musical phrase or more. One of the more interesting conclusions was that conductors devoted an average of 35-40% of rehearsal time to verbal communication.

In Pontius' study, an investigation was made of five high school band directors as an initial step in the development of a profile of rehearsal behaviors of successful high school band directors. Rehearsal components examined were the effective nature of rehearsals, elements of instrumental performance which concerned conductors, and techniques they used to resolve those concerns.

Data revealed that conductors were direct or non-supportive in their verbal interaction over 78% of the time. They talked 42% of the active rehearsal time with the remaining 58% of the time used for rehearsal trials. More than half of rehearsal trials were concerned with less than a phrase.
Yarbrough and Price (1981) examined videotaped teacher and 
performer behaviors during several high school ensemble rehearsals and 
discovered that there was a strong relationship between off-task 
behavior and individual teacher, nonperformance activity, and teacher 
eye contact.

Jensen (1966) became interested in the perceptions of five 
selected band conductors concerning their philosophical concepts as 
they related to rehearsal techniques which contributed to an aesthetic 
performance. He asked 522 members of various national band and music 
directors' associations to select five conductors whom they regarded 
as the five most renowned band conductors in the field. Hindsley, 
McGinnis, Revelli, Sawhill, and Ebbs were chosen.

The following is a list of primary perceptions considered by the 
five subjects to be imperative in preparing bands for the highest 
degree of excellence and which would result in an aesthetic musical 
expression:

1. The primary justification of music education is dependent 
   upon the realization of an aesthetical expression.
2. An aesthetical experience is limited only by the innate 
   abilities of the individual.
3. Aesthetic sensitivity is cultivated through: (a) 
   performance, (b) recreation of significant music literature, 
   (c) desirous application of musicality, and 
   (4) Conductorial gestures which must be meaningful and 
   motivational.

A more recent study by Menchaca (1988) analyzed a number of musical 
instructional events categorized as: (1) verbal behavior, (2) visual 
expressive gesture, and (3) demonstration. A specific purpose of the 
study was to summarize the various approaches by which a conductor solves 
musical problems in a rehearsal situation. In addition, Menchaca examined
various rehearsal elements which caused subsequent conductor reaction. Various causes were categorized as:
(1) fundamental elements, (2) expressive elements, (3) pedagogical elements, and (4) other elements.

A third purpose of the study was to determine if a relationship existed between various conductor behaviors and attitudes of students in the ensemble. Fourteen high school band conductors from within the New Orleans area were randomly selected to participate in the study. All conductors chose their most advanced musical groups for taping.

Part of the data indicated that mere time beating which was scored as "unable to rate" was most often used in rehearsal as an approach to solving a musical problem. In addition, conductors most often used verbal means while the ensemble was stopped to alter specific music behavior.

Visual expressive gestures which were used while the ensemble was playing were employed 12.43% of the time. Additional findings in this study showed that the teacher/conductor tends to emphasize fundamentals of performance when solving a musical problem far more often than he tends to emphasize expressive playing. Apparently, conductors are not teaching students how to solve problems through the pedagogical approach; theory, style, and phrasing, for example, receive virtually no attention in the rehearsal. It is interesting to note that the study suggests that students prefer working in and becoming involved with "higher order" elements during a rehearsal; they feel they are learning more about music.
General Literature On Conducting

As previously noted, conducting techniques and rehearsal techniques are closely related areas in the field of music education. Employing good rehearsal techniques to the exclusion of good conducting techniques during the course of an ensemble rehearsal will likely produce less than adequate musical results. In fact, it can be argued that conducting through expressive gesture should occupy the majority of the time spent in a rehearsal. As Raymond Willard (1986) points out in his article on the subject:

Too often band directors rely on verbal directions to solve musical problems, indicating either a lack of confidence in their conducting technique, or an inability to communicate effectively through gesture...Developing a wide array of expressive gestures allows conductors to achieve musical goals without discussing them. Speaking less during rehearsal saves time, allows students to play more, and also enables them to learn by watching and listening. (p. 38)

Certainly, one cannot expect a conductor to conduct an ensemble rehearsal without resorting to verbalization at some point in the rehearsal, although Jorge Mester, Music Director of the Pasadena Symphony and conductor of many American and European orchestras, when asked to express his thoughts on teaching conducting, during an interview with Hanna Hanani, was quoted as saying:

Talking is strictly forbidden in my training program - speech can be used only as a last resort. I discourage students from talking to the orchestra until they have tried every which way to show things with their gestures because this is a silent art. If they talk about it, they are not conducting, they're lecturing; and I teach conducting not lecturing. (pp. 19-20)

It is understandable, however, that the band director in a typical school situation, functioning as a teacher and conductor, must be careful
in deciding how much time he will spend utilizing conducting techniques
and other types of rehearsal procedures, mainly verbalization.

Frank Battisti (1981), director of the wind ensemble at the New
England Conservatory of Music in Boston, explains that:

conducting is being able to clearly demonstrate, minimizing the
need to stop and try to explain in words what we want because
then we are teachers...the ensemble player should have the
playing skills to be able to respond to what he sees, thereby
creating a situation where the conductor gives, the player
sees, the music is affected. (p. 17)

Improving Curriculum And Methods In Colleges And Universities

The College Band Directors’ National Association believes in the
importance of a comprehensive conducting curriculum in colleges,
consequently during the period between 1973-1975, the Research And
Education Committee decided to obtain opinions from experienced teachers
regarding the adequacy of their undergraduate school curriculum.
(Panhorst, 1975)

A questionnaire was developed and sent to 1280 selected band
directors in fifty states. All levels of experience in school
instrumental music teaching were represented by those responding.
The average teaching experience reported in grades K-6, 7-9, and 10-12
was 10, 11, and 13 years respectively. Approximately 89% held Bachelor’s
Degrees, 74% attained Master’s Degrees, and 6% had Doctorates.

The questionnaire contained 44 music courses divided into six areas
of study: (1) History and Literature, (2) student teaching,
(3) theory, (4) applied music, (5) performance, and (6) music methods.
The band directors were asked to respond to each of the music courses
regarding each of the following statements: (1) needed for preparation as
band director, (2) had the course, (3) course content adequate, (4) course content inadequate, (5) course taught adequately, (6) course not adequately taught, and (7) did not have the course.

Some of the findings clearly indicate that experienced school band directors felt strongly about: (1) the need to continue to provide undergraduate instructions in the traditional technical areas of instrumental music, and (2) the importance of continuing to emphasize courses in basic musicianship. A large percentage saw the need to provide a wide variety of non-music courses to help prepare the prospective band director. One relevant aspect of this study was regarding the relatively low rating given many subjects as they related to the adequacy of course content and instructional effectiveness.

A more recent article regarding college conducting courses and training appeared in the January, 1982 issue of the School Musician. Written by Dr. James Croft and given as a major address at a meeting of the College Band Directors' National Association, the article contains a number of relevant statements with regard to music education and conductor training. For example, Croft states that:

Much of what masquerades as education in the preparation of both the conductor and performer is often little more than training, and far too much of that which postures as training has little educational application. Competence is produced when both components are supportive. Competence is central to the professional preparation of the conductor and performer in the United States. (p. 31)

He proceeds to pose several questions:

Is the training or education of the wind band conductor or performer any different from that of the orchestral conductor performer? Are wind conductors prepared in the same academic environment as are wind performers, or are they prepared at all?...When conducting students have no reliable instruments on which to practice, how is it possible to develop appropriate conducting skills or musical perception unique to the medium? (p. 31)
He continues with a brief history of American music schools and American instrumental performing groups after which follows a rather lengthy and complete discussion of the preparation of instrumental performers in the colleges and universities of America. He then points out that the preparation of the wind conductor is quite different from those in other areas of the music field. There are no baccalaureate degrees offered in wind conducting except perhaps by a few conservatories.

Wind conductors emerge mostly from music education programs. They are prepared to teach in elementary and secondary schools and follow a course of study that develops specific competencies. A list of competencies required of the performer according to National Association of Schools of Music standards would take less than half of a page to describe while those demanded of the same degree in music education requires two and a half pages of specifics.

Examples of competencies expected in conducting include the ability to: (1) demonstrate effective technical facility and coordinated conducting gestures, (2) convey proper interpretation and style through baton techniques, (3) be familiar with methods of score reading and memorization, (4) be competent in score analysis and (5) be familiar with psychology of rehearsing.

One of the first research studies in the area of conducting classes and conductor training was undertaken by Getchell in 1957. His investigation of the beginning conducting classes in the college curriculum revealed several problems related to conductor training. His concern was with suggestions and recommendations for improvements in beginning conducting classes at the college level.
A determination was made regarding the current status of the beginning conducting class in colleges throughout the country in the areas of organization, course content, and approaches to teaching the class. The study also attempted to determine the most common problems encountered by beginning conducting students and recommended remedial processes for correcting such problems. A third consideration of the study was to establish a one-semester course outline for beginning conducting classes.

One hundred and ten completed questionnaires returned from colleges, universities, and conservatories were used to assemble the data. Sixty-one percent reported that beginning conducting class was introduced in the third year of the music curriculum. A large majority reported that beginning conducting was a non-integrated class whose subject matter was confined to baton technique and directly related areas such as musical terms and rehearsal techniques.

Among problems encountered in beginning conducting class were: (1) faults related to executing holds and releases and in noting changes in dynamics, (2) faults in executing preparatory beats and attacks, (3) the difficulty in providing live performing groups for the student conductor.

Finally, a course outline was designed for a one semester beginning conducting class in which emphasis was placed in the discussion of basic problems which could normally be resolved in a one semester conducting course for beginning conductors.

Matthews (1963) felt it was necessary to establish standards for the teaching of conducting in colleges and universities. A
questionnaire was sent to ten of the top conductors who had been
nominated by five conducting professors at the University of Oregon.

It was subsequently recommended that actual live performing
groups should be made available for the purpose of providing the
conductor the opportunity to conduct "live groups" more often.
The suggestion was made to design a class which would include a
number of requisites and essentials of subject matter.

Labuta (1965) developed a sound theoretical basis upon which
instrumental conducting courses in the college curriculum could be
structured. Because of an increased realization of the importance of
conducting classes in teacher preparation and of the inadequacies of
present practices regarding the content, organization, and conduct of
those classes, it was decided that there was a need for a study such
as this. There were also statements from authorities which were
directed to the need for research into the application of aesthetic
theory and learning theory to the teaching of music.

He ascertained the nature of musical expression, nature of
musical learning, and the role of the conductor and utilized the
principles and generalizations derived from the investigation as a
basis for the purpose of delineating the objectives.
Appropriate learning expressions, organizing procedures, and
conducting techniques were selected to restructure the general music
course.

As a result of this study, a valid basis "had been formulated
upon which conducting courses at the college level could be
structured based on the nature of musical expression, principles of musical learning, and the musical and societal needs of the conductor" (p. 406).

A more recent study of considerable importance by Zirkman (1985) examined and revised a number of educational objectives for conducting class beginning with the undergraduate level through the doctoral degree level. Included were 173 behavioral objectives and 3 basic methods of evaluation.

Findings revealed that conducting textbooks were most frequently of the undergraduate level; equipment most frequently used for evaluations was the tape recorder. Teachers expressed the opinion that there should be more classes and more class meetings, and a greater variety of conducting material should be provided.

**Conductor Training**

Motion is the language of conducting. Through motion, the conductor portrays his innermost feelings towards the music. As Robert Reynolds (1989) Director of Bands at the University of Michigan, so aptly expressed it:

> The conductor is constantly sensitizing musicians to visual signs - because they are effective means of communication - or desensitizing the musicians to these signs because they tend to be monotonous or awkward and convey only the most elementary musical aspects of pulse, volume, and general style...Appropriate and varied conducting gestures will command the attention and response of the players; unnecessary or monotonous ones will cease to have any effect at all. (p. 27)

It is fortunate that the research literature contains several meaningful studies which focus on developing essential conducting competencies for the conductor.
Yarbrough (1987) discovered that self-observation of correct conducting responses, accomplished through video tapes, resulted in the achievement of certain basic conducting skills. Furthermore, she found that it was possible to achieve substantial improvement in a relatively short time by focusing student attention to corrections of inappropriate conducting behavior through self-observation and self-critiques.

A second study by Gonzo and Forsythe (1976) demonstrated how videotapes can be developed and used to teach rehearsal techniques and principles to prospective teacher/conductor students in music education classes. Tapes were used in an experimental control group situation with two separate groups of students - one group consisted of choral methods classes and the other group included music education classes. A posttest only control group design was used for this study. Significant differences were found between the experimental groups, those students receiving the video material and the control group in observational skills, knowledge of behavioral principles, and attitude toward the course.

Johnston (1978) identified conducting competencies for inclusion in teacher education conducting classes, especially those regarded as essential to the success of first year high school band/teacher/conductors. Johnston reviewed numerous compositions suitable for high school band, a number of conducting textbooks, research articles, and periodicals; twenty six of all 141 conducting competencies found were considered to be essential for first year high school band conductors.
Suitable wind band excerpts were chosen to be paired with essential competencies. According to authorities, 19 competencies/excerpts pairings were found appropriate to assist in the development of conducting competencies in instrumental conducting classes.

Collings’ (1973) study was concerned with measuring subjects’ skill in detecting errors of pitch in a musical performance by a brass quintet while reading a conductor’s score.

A second study by Costanza (1968) involving score reading skills proposed to develop programmed instruction materials to effectively teach harmonic and melodic score reading skills and to determine whether harmonic and melodic score reading skills can be significantly improved by the developed programmed materials.

The study concludes that programmed teaching materials can be effective in significantly improving harmonic and melodic score reading skills. In addition, the score reading test was an effective instrument for measuring melodic and harmonic score reading skills.

An interesting study was conducted by Forsythe and Woods (1983) to determine the effects of conducting on the ability of undergraduate and graduate instrumental conductor students to detect errors. It was theorized that attention to one aspect of conducting may effect the development of another.

The question was asked, “Does the act of conducting actually inhibit listening skills?” Results of this study suggest that perhaps listening skills are somewhat inhibited by the act of
conducting and that the use of expressive conducting during early stages of preparing a piece is questionable if the act of expressive conducting will impair the conductor's ability to listen accurately.

Rives' (1983) study on selected conductor's perceptions of aesthetic rehearsal techniques reported implications for preparations of undergraduate choral conductors. The study also implied that undergraduate choral students should be offered philosophical and practical courses based on aesthetic music education principles.

Clark's (1973) study provided musical examples for use as laboratory materials in elementary instrumental conducting classes. As has been indicated in previous studies, students needed more laboratory conducting experience than was available. The author compiled a list of conducting techniques, composed or selected a musical example and scored it for various combinations of wind, string, and percussion instruments so it might be performed by class members.

Observation Instruments Related To Conductor Effectiveness

Insights into conductor behaviors during rehearsals can prove to be enlightening and useful when trying to determine how to improve conductor effectiveness with the performing ensemble.

Sherrill (1986) analyzed the rehearsal and conducting techniques of eight teachers of school bands on video tapes. The study found only minimal examples in the following categories: odd-meter passages; unusual or difficult rhythms; and mixed meters. Other observed examples of conducting behaviors were: facial expression, eye contact and expressive beat patterns. All were found to be insignificant.
A similar study by Patterson (1985) also described conducting gestures used by high school choral conductors. The observation instrument used was called Observation Notation Chart. Commonality of usage among the conductors was tabulated for performance style of legato, staccato, marcato, crescendo, diminuendo, accelerando, and rallentando. Video tapes and audio recordings were made of the performers and of the rehearsal. One of the conclusions revealed that some gestures, especially facial, were used by over 50% of the conductors. Observation data was displayed in Observation of Usage Charts and Frequency Charts.

Ervin (1975) developed and assessed a systematic method of observation that would evaluate conductor effectiveness in terms of conductor behaviors. Video tapes were made of conductors and were viewed by a panel of 5 judges. Eleven variables were selected for evaluation. Conductors were distinguished by a high and low group according to the Systematic Method of Observation.

Erbes (1972) also developed an observational system for categorizing, analyzing and reporting verbal interaction between conductor and students during a rehearsal. Rehearsal Interaction Observation System was developed as training technique for use with university conducting students. One of the outcomes from this study was that student behavior or activity occurred at each three second interval.
Roshong (1978) developed an observational instrument that would inventory nonverbal communication of conductors. He attempted to categorize nonverbal behaviors among conductors to determine if there were any nonverbal communication movements that were common to all conductors.

Specific nonverbal communication techniques employed by conductors of a musical ensemble was developed by Berz (1984). The purpose of this study was to develop an observation instrument which would classify nonverbal communication behaviors of conductors of musical ensembles. A two part instrument was developed, the first part accounted for static behaviors and the second part included all static behaviors of the conductors during their ensemble rehearsals.

The study concluded that the Music Conductor Observation Instrument was a viable means to classify and categorize nonverbal behaviors of conductors observed during ensemble rehearsals.

Discussion Of Body Movement As Related To Conducting Technique

Expressive conducting involves varied movements of the arms, hands and fingers; facial expression; and a certain amount of body movement. Bartee (197?) was interested in the body movement aspect of conducting. His study developed a theoretical position on expressive body movement in conducting.

Much of this study was based on the writings of Rudolph Laban and the philosophy of Susan Langer. The study noted three deficiencies in conducting theory and practice: (1) lack of principles of body movement in text books, (2) conducting classes
fail to teach principles of body movement, and (3) conductors have limited knowledge regarding the possibilities of expressive movement.

Langer's theory of music, "an expressive line where sonorous forms move through virtual time presenting a semblance of the life of feeling through symbolic transformation," provides conductors a basis to plan expressive gestures. (p. 6385A) Langer's theory is "one possible explanation of musical meaning which is communicated through bodily expression" (p. 6385A). The writer concluded that "the conductor can improve his ability to use expressive gesture by studying movement as practiced in the movement arts" (p. 6385A).

**Effects Of Concurrent Variables On Performing Skills**

Expecting student performers to simultaneously respond appropriately to the expressive conducting gestures of the director and to the respective musical expression marks indicated in the music while at the same time be expected to accurately perform the notes and rhythms is somewhat unrealistic. Studies show that attention devoted to one performing task will limit the attention necessary for monitoring the other elements of performance. The suggestion that one needs to practice to "get the notes under your fingers" before expecting to attend to the other performing tasks seems to take on a greater significance.

One of the most recent studies related to this general area of research (Ellis, 1989) examined the effect of concurrent performances on the ability of three groups of musicians to detect tempo change. Ninety subjects were tested under two conditions: (1) listening for tempo changes in a series of metronomic click tracks and (2)
listening for tempo changes while concurrently reading and performing
musical excerpts in synchronization with the click tracks.

Results indicate that the group which had been given the music
and practiced it previous to the test was less inhibited by the
playing task than was the group who had not practiced. It was also
found that college and professional students who had not previously
practiced the music were not as inhibited by the playing task as were
the high school students who had not previously practiced the music.
In addition, it was found that all groups were inhibited by the
playing task to some extent.

Most conductors strive to sensitize their student musicians to
every nuance and subtlety presented to them via conducting gestures;
however, according to the implications of this study, if musicians
are devoting their attention to the task of transforming musical
notation into correct motor activity they will have a limited amount
of attention available for monitoring other elements of performance.
Processing efficiency of multiple performing tasks can be increased,
however, through playing experience and practice.

McGarry (1968) conducted a study whose purpose was to determine
the extent to which vocalization of music contributes to the
development of selected music performance skills such as technical
accuracy and observation of expression marks. Seventy-four junior
high school students were matched on performance skills and divided
into two groups. Teaching procedures for both groups were identical
except that members in the experimental group were asked to vocalize
on letter names, rhythmic patterns, articulation patterns and to sing, along with instrumental performances.

Some important conclusions based on the results of this study included: (1) vocalization as a teaching technique produced significant effects for instrumental students of below average ability, and (2) vocalization is particularly effective in the absence of private lessons.

**Relative Effects Of Conductor Behavior And Rehearsal Techniques**

As is evident from the studies previously discussed, a number of research topics related to the many different areas in the fields of conducting and musical performance have been investigated over the past thirty years. Only within the past five years has there been increased interest in closely examining the many complexities of conductor behaviors and/or baton techniques and the direct resulting effects on performing ensembles and the quality of the musical performance.

As early as 1960, articles appearing in music education journals and periodicals were imploring conductors of school performing ensembles throughout the country to: focus their attention on expressive conducting; help students become aware of the interpretation of the music and the expressive qualities of sound; and develop in each performer an aesthetic sensitivity to music through expressive baton technique.

Fitch (1960) added that "knowing the beat patterns is but a small portion of the art of conducting...expressive conducting should
not be restrictive to the baton; the expression of the face, the advancement of the body, the tension of the arms - all should play a part in conveying your interpretation to the performance" (pp. 46-47).

Mr. William Douglass, at one time Director of Orchestras in a school district in Illinois and Conductor of the North Suburban Youth Symphony expressed his thoughts on the subject of conducting in an article in December, 1967 issue of The School Musician Director. An excerpt from that article is as follows:

Conducting is little understood and greatly misunderstood. The beating of time is only a minute aspect of conducting. Reproducing the score exactly as it is printed is only a fragmentary part of the task. It is accomplished by way of an inner communication between players and conductor. If this inner communication does not exist, the man with the stick serves only as a time beater. (p. 62)

Communication between conductor and performer must go beyond the verbal to be most effective. He encouraged all conductors to utilize this seemingly new concept of nonverbal communication to their advantage. (Morsch, 1977)

Several studies related to conductor behavior have made significant contributions to the research literature. Grechesky (1985) examined nonverbal conducting behaviors exhibited by selected high school band conductors in central Indiana in order to determine their effect on performers.

Eleven bands participated in the study. Audio and video tapes were made of these rehearsals and their concert. The tapes were subsequently evaluated by a panel of judges; bands with the highest scores were rated "musical," and bands with lowest scores rated "less
musical." Conductor behaviors were observed from the video tapes. Rank order was determined by performance quality.

Results from this study indicated that some verbal explanation was necessary in the rehearsal but that verbal imagery had a much stronger impact on ranking of the bands. Evidence of more body movement was found among conductors of more musical groups. Emblems, illustrators, and iconic behaviors (nonverbal behaviors) had the most powerful effect of any of the variables. One of the conclusions drawn from the results was that conductors with nonverbal communication skills can have a very positive effect on their groups' musical performance.

Carpenter (1986) proposed to describe both qualitative and quantitative aspects of junior and senior high school band teachers/conductors' behaviors. In addition, he hoped to determine if there are any specific predictive factors on overall ratings of rehearsals in the verbal behaviors of teacher/conductors.

Two forms were used for data collection. A panel of experts used Form A to rate several teacher/conductor factors such as personal qualities, procedure, organization, pedagogy, error detection skills during rehearsals. Form B was used by two other judges to categorize specific verbal behaviors of teacher/conductors ranging from specific to general approval/disapproval feedback regarding social and musical behaviors to musical elements attended and techniques used to initiate behavior.

Results of this study revealed that teacher/conductors were more disapproving than approving and more likely to attend to musical
behavior than to social behavior. Highly rated rehearsals were not predictable from frequency of attending to various music elements and differences between junior and senior high rehearsals were evident throughout the study.

Yarbrough, (1975) considered the effect of magnitude of a conductor behavior on attentiveness, attitude and performances. Magnitude was defined a priori by the author as "what a conductor can do to make a rehearsal more exciting." Students from four mixed choruses, one university chorus and 3 high school choruses, served as the population sample. They rehearsed under 3 conditions: (1) with regular conductor, (2) with high magnitude conductor, and (3) with low magnitude conductor.

The effect of magnitude of conductor behavior was measured by three methods: (1) by judge's ratings (Music Conductor Observation Form was developed for this study), (2) behavioral observation of student attentiveness and (3) self report of student attitude.

There were no significant differences found in musical preferences, or attitude ratings among baseline and the two experimental conditions, high and low magnitude conducting. Three of the groups, however, received their lowest ratings under low magnitude condition, the percentage of off task behavior was lower during high magnitude condition, and according to the author, students preferred the high magnitude conductor.

A study by Price (1981) utilizing the university symphonic band, examined the effect of conductor academic task presentation,
reinforcement and student performance on attentiveness, achievement and attitude. The band was involved in three treatments across 5 rehearsals. Sightreading of each of the six compositions served as the pretest for the musical performance.

Treatment A involved directions, regarding where to start playing, followed by performance. Treatment B included academic task presentation which preceded directions followed by performance. And Treatment C contained the same variables as in Treatments A and B except that the ensemble performance was followed by conductor reinforcement.

Two different conductors worked in each of the three treatments and conducted three of the six compositions. Each of the six compositions was presented in random order, each session to control for experimenter and order effect. In Treatment A, conductors were to verbalize directions. The ensemble was to perform as much as possible and facial expressions of conductor should be neutral as much as possible. In Treatment B, verbalizations must comprise 50% of the treatment time. Reinforcements in Treatment C should be directly related not only to student performance but also to the task presented. Each composition was played in its entirety following each treatment so that any change could be assessed across treatment sessions in musical performance.

Multiple regression techniques were used to analyze each of the five questions on the attitude survey. The music used and the conductor had an effect on the manner in which the students responded to all survey items.
Of the three treatments investigated, the one that included all the variables, academic task presentation, directions and ensemble performance followed by appropriate reinforcement to ensemble rated the highest and was also termed the most efficient. This treatment also resulted in the largest musical performance gains and highest student attitude gains in addition to indicating a clear superiority of performance. The results of this study suggest that the conductor should not only attend to musical instruction and performance but should also give appropriate feedback.

Effects of Conductor Behaviors On Rehearsal Efficiency/Effectiveness And Performance Quality

There have been relatively few studies to date which have explored the effects of nonverbal expressive conducting gestures as they directly affect musical performance. Taylor (1989) selected three articulation styles—legato, staccato, and marcato—and studied the effects of a sensitizing procedure used by high school conductors on the ability of high school band students to perform in each of the three given styles.

In addition, the study examined the differences in the performance of the articulation styles disregarding the training procedures.

The sensitizing procedure was intended to help ensemble members respond appropriately to the conductor’s visual gestures. During rehearsal stops, the conductor would instruct the ensemble in the appropriate articulation styles and would be sure to relate the
articulation style to the appropriate gesture demonstrated. A pilot study was conducted to test some of the experimental procedures. The study was considered a two group posttest only design with random assignment.

A period of 15 rehearsals was chosen for the sensitizing treatment over a period extending between January and March. During the treatment period, the sensitizing conductors were asked to draw the ensemble members' attention to the visual gestures representing the articulation styles by verbally explaining the appropriate styles while demonstrating the appropriate gesture. The control group conductors were asked to conduct their rehearsals normally, employing no special sensitizing techniques.

The posttest was in three sections designed to evaluate the various aspects of the sensitizing treatments. In Section I, the ensemble performed exercises as the conductor used appropriate gestures to indicate the various styles of articulation. The articulation markings were indicated in the parts and in the score. Section II contained no articulation markings in the score but were in the parts. The ensemble members were asked to perform the articulation markings as indicated while the conductor simply beat time.

Section III had no articulation markings in the parts but were indicated in the score. Ensemble members performed the articulation styles according to the conductor's gestures.

A summary of results showed that there was no significant difference between the sensitizing group and the control group in the
performance accuracy of articulation styles. Therefore, sensitizing does not appear to be a valuable aid in helping students to perform selected articulation styles.

Moss (1989) examined a number of rehearsal techniques in an applied setting. Four approaches were used in rehearsing an ensemble: (1) use of standard rehearsal techniques paired with appropriate conducting, (2) standard rehearsal techniques paired with inappropriate conducting, (3) non-rehearsal repetition of critical passages paired with appropriate conducting, and (4) non-rehearsal repetition of critical passages paired with inappropriate conducting. A total of nine rehearsals comprised the experimental period.

The study was designed to determine what types of rehearsal methods would be best suited for solving various types of problems in instrumental music rehearsals based on the number of trials and under the four experimental conditions. Additionally, potential effect upon teaching of rhythm, tempo, ensemble clarity, tone, pitch/intonation, note accuracy, dynamics/balance, style/articulation, and musicality/expressiveness was informally analyzed, based on the number of trials needed to assist players in correcting problems in these areas. The University Band at Ohio State University was chosen for this experiment and the experimenter/conductor was the primary conductor.

Among the conclusions derived from this study, a few stand out as particularly notable: (1) the extent to which appropriate baton
technique makes a substantial difference in rehearsal effectiveness and efficiency is vague and may be in part dependent upon the level of the performing ensemble—the effect of musical gesture as portrayed by the conductor may have more immediate impact on a more mature ensemble and may not be so effective on less advanced players; (2) teacher/conductor of ensembles similar in abilities to that used in this study would seem to spend rehearsal stops addressing concerns such as pitch, correct notes, styles and rhythms rather than issues of musicality and expressiveness.

Sousa (1988) investigated a number of musical conducting emblems taught and employed by instrumental conductors for years. This study could very well be the logical beginning of a new phase of research in the area of nonverbal conducting gestures and their significance to musical performance. In order to pursue the purpose of this study, Sousa developed a list of specific nonverbal gestures commonly used by instrumental conductors, videotaped demonstrations of corresponding gestures, and presented the videotape to various groups of instrumental performers to determine if the gestures were easily recognized.

A total of 55 gestures were demonstrated on the videotape 38 of which generated a mean recognition score of 70% (a minimum percentage score established for recognition as a "musical conducting emblem") or above, across all levels.

Percentage of recognition was significantly different among the three population groups: the junior high students correctly
identified 17 of 55 gestures (34.5%); the high school students correctly identified 37%; and the college group identified 47% of the gestures.

Nineteen commonly used instrumental conducting gestures (34.10% of 55) were identified as musical conducting emblems. Several implications of the study are: (1) one cannot assume that conducting gestures commonly taught in colleges are universally recognized by instrumental performers—only 7 of 55 gestures had a 100% mean recognition score by the college students; (2) the effectiveness of some gestures may be greater than others in communicating musical ideas; (3) this study would suggest that sensitization of instrumental ensembles might be helpful.

Summary Of Research Topics And Related Studies

Research studies related to teacher/conductor behaviors on musical performance and other variables, relative effectiveness of selected rehearsal techniques on musical performance and other variables, observation instruments for rehearsal and conductor effectiveness, development and training of conductor competencies, improvement of conducting curriculum in colleges and universities and effects of selected variables on student performance skills are all invaluable to the development of a greater understanding of the many factors involved in the complex relationships between teaching/conducting and learning/performing as pertaining to musical outcomes. Some of these studies in particular have touched upon the area of nonverbal, expressive conducting gestures as they are

However, there has apparently been little or no attempt made to isolate the various musical expression variables to determine the extent to which performers are able to appropriately respond to the expressive, nonverbal conducting gestures representing those expression variables.

By examining several verbal and nonverbal behaviors in a rehearsal setting, Gretchesky (1985), found that nonverbal communication skills can contribute positively to the musical performance of an ensemble. Taylor (1989), examined three articulation styles along with the related conductoral gestures under sensitization and nonsensitization conditions and found that sensitizing techniques used in the study had no effect on the performance accuracy of the three articulation variables.

Moss, in a more general examination of musical and non-musical conducting gestures, found that the degree to which appropriate baton technique makes a substantial difference in the effectiveness and efficiency of rehearsal progress is unclear at best, and may be dependent upon the playing level of the performing ensemble.

The research described in the present study was in part influenced by Sousa’s study in which he described a number of instrumental conducting emblems and discovered through a multiple choice paper-pencil measure, in connection with videotaped demonstration of the conducting emblems, that the assumption that
those conducting gestures taught in college classrooms have universal interpretation was not completely valid.

The present researcher decided to examine eight expression variables seven of which had a 75% recognition score according to Sousa's study, and one a 34% recognition score among the high school population. An attempt was made to determine the extent to which high school students were able to recognize these eight variables: (1) by matching correct definitions with appropriate terms, (2) by performing each variable in isolation on a single pitch exercise, and (3) by performing the variables as indicated within the context of 4 melodies while simultaneously following the appropriate expressive conducting gestures.

Textbooks Review

The author reviewed many textbooks on conducting and found the majority of them to be well written and useful. Almost all the books seemed to follow a similar format and outline, i.e., an introductory section containing some pertinent thoughts and general remarks on the art of conducting followed by a larger section in which the details of conducting techniques were presented such as simple beat patterns and diagrams of corresponding arm movements. The books usually progress to descriptions of additional advanced conducting gestures and conducting technique and usually ended with a section on rehearsal techniques containing some helpful hints and suggestions regarding ensemble rehearsals.
Scherchen (1933) in his *Handbook of Conducting* stated that "to conduct means to make manifest - without flaws- that which one has perfectly heard within oneself." He suggests that "...a conductor has three methods of conveying his intentions: by representative gesture; expressive mimicry; and explanatory speech. The first alone is important - mimicry and words are of questionable value and may even hamper as well as help" (p. 38).

Rudolf (1950) in *The Grammar of Conducting* reinforces the sometimes controversial notion that conducting can be taught. His method of teaching is different from that of most textbooks of conducting prior to that time. Rudolf suggests that:

there is technique of conducting just as there is technique of playing piano. Most elementary things indicated by gestures are when to stop and start, tempo of music, holds and interruptions - these are indispensable and merely sufficient to keep orchestra together but to obtain an artistic result, the conductor must be able to communicate nuances in dynamics, details of phrasing, articulation (legato and staccato) and general expression. Time beating is not enough. Appropriate gesture for each musical expression must be mastered before we can speak of conducting. (p.2)

Munch's (1955) *I Am A Conductor* is a result of the strong and persistent persuasion of a certain French publisher who asked Munch to analyze and discuss his profession at book length. Munch begins his essay on conducting by pointing out that the success or failure of an orchestra is the total responsibility of the conductor.

Several chapters throughout the book examine some relevant aspects pertaining to the art of conducting such as preparation of a score and rehearsal techniques.
Walter's (1957) book *On Music And Music Making* was meant to form the continuation of and the complement to his autobiography, *Theme and Variation*. This then is "the final variation" of his life's experiences. He believes that two facets of musical talents are necessary for a conductor or for any performing musician: extrinsic musicality comprising of an excellent ear and memory, and intrinsic musicality, the ability to understand music upon hearing it like his "mother tongue."

*The Modern Conductor* by Green (1969) is probably one of the most well known and widely read books on conducting. The book was written with the intention of making it available as a college text. Chapter 5 is an important chapter containing a thorough review of the expressive gestures. Green divides expressive gestures into 2 categories: active gestures, requiring response from the players; and passive gestures which ask only for silence, no response from the ensemble. Active gestures are characterized by the presence of impulse of will, a conductor quality whose strength depends on the definition of the rhythmic beat, the decisive leadership of the conductor, and the success of the realization of the interpretation.

Music examples and line drawings of beat patterns are abundant throughout the chapter and the entire book. Beginning with Chapter 9, the book concentrates on the score, particularly on the mechanics and interpretation of the choral, orchestra, and band score.

The closing chapters present some important advice on the preparation of the performance, the memorization of the score, and
some advanced thoughts on psychological and creative conducting. Fuchs (1969) in The Psychology of Conducting expresses wonder and surprise that, "on such a complex subject there should exist such a wealth of printed material which presents in a concise and comprehensible manner at least a major portion of what is teachable, offering valuable assistance where inexperienced teachers often may fall far short of their intended goal" (p. vii).

As one reads through the entire book, one realizes that Fuchs was more concerned with the appearance of the conductor from the audience’s viewpoint rather than from the orchestra’s as is evident in his statement, "Conductor’s success depends on the visual contact with his audience" (p. 6). He continues to support this position by explaining that,

we cannot ignore the visual effect of the conductor’s physical demeanor since the impact of the physical is, of necessity, psychological. The conductor himself is seen, and only the music that he controls is heard. So it is quite natural that his appearance and everything he does physically from the moment of his first entrance are bound to influence orchestra and audience. Such matters cannot be treated lightly. (p. 59)

If the physical image and conducting gestures are going to influence an audience’s perception of the conductor, it would be logical to think that the conductor’s physical image and conducting gestures are, in some way, going to impact his performers.

But if the external behavior and the mannerisms of a conductor are important in relation to the audience, they are infinitely more important in relation to the orchestra. (p. 60)

Fuchs recounts many interesting and entertaining stories about famous conductors but he also becomes involved in many significant
discussions regarding conducting gestures and the conductor and the effect he has on his performers.

Kohut's (1973) book, Instrumental Music Pedagogy, is a text principally designed for public school band and orchestra directors and instrumental student teachers. Instrumental performance is emphasized throughout the book. He analyzes and discusses fundamentals of performance and how they effect phrasing and other elements of musical expression.

Although no mention is made of the importance of conducting, there is a section devoted to rehearsal techniques in which he lists a number of priorities for a band director to follow in his rehearsals:

a. Rhythmic accuracy.
b. Correct notes, key changes.
c. Tone quality and intonation.
d. Bowing and articulation.
e. Precision, including rhythmic interpretation.
f. Melodic phrasing and expression.
g. Dynamic contrast.
h. Tonal balance and blend.

He also stresses memorization of the score.

Musical concepts and ideas related to expressive conducting and performing have been abundantly present in the literature review for this study, however there is an obvious need for more significant research to ascertain the direct effects of various expressive variables such as dynamics, dynamic changes, tempo changes, various styles and articulations, and other phrase markings, portrayed via conducting gestures in performing ensembles. Results would begin to answer questions such as: types of procedures used in rehearsal for
greatest musical outcomes; types of conductor training methods used to produce better prepared conductor/teachers; and conducting curriculum content for improvement of conducting courses.
CHAPTER III
METHODS AND PROCEDURES

The purpose of this study was to determine the extent to which individual high school band musicians were able to respond to indicated expression markings in the music while simultaneously following the conducting gestures of the conductor.

A determination was made to use expressive conducting gestures widely recognized and easily identified by high school instrumentalists. A survey study conducted by Sousa (1988) explored the notion that "instrumental conductors make use of...musical conducting emblems" (p. 73). Sousa’s study was based on the notion that gestures have precise meaning and that many gestures are widely understood and able to be accurately interpreted by various instrumental performers.

According to Sousa’s study, Ekman and Friesen (1969) defined emblems as "those nonverbal acts (a) which have a direct verbal translation usually consisting of a word or two, or a phrase, (b) for which this precise meaning is known by most or all members of a group, class, subculture, or culture, (c) which are most often deliberately used with conscious intent to send a particular message to the other person(s), (d) for which the person who sees the emblem usually not only knows that emblem’s message but also knows that it was deliberately sent to him, and (e) for which the sender usually takes responsibility for having made that communication" (p. 18).
It is apparent from this definition that instrumental conductors could refer to certain nonverbal conducting gestures as musical conducting emblems.

Sousa determined that of the 55 gestures presented to a total of 297 students from two junior high schools, two high schools and four university band programs, 38 gestures generated mean recognition scores of 70% or above (70% was a minimum percentage score established for recognition as a "musical conducting emblem").

The eight conducting gestures selected for examination in the current study were: staccato, legato, marcato, crescendo, decrescendo, fermata, accelerando, and ritardando. Seven of the eight gestures selected received a mean recognition score of over 80% among the total high school population, while one, the accelerando gesture received a mean recognition score of 35% among the same high school population in Sousa's study.

Despite the fact that accelerando did not rate as a conducting emblem, it was felt that (a) there was a need to include an opposite representation to the term ritardando so that consistency could be maintained in the performance evaluation, with the other two pairs of opposite terms; (b) it would be valuable to determine if a significant difference exists between performance of accelerando compared with the other items of expression, and (c) it provided an additional "musical" expression device to give the melodies interest and musical meaning.

Results of Sousa's study raised a question pertinent to the current study: if a large percentage of high school band students
are able to recognize and identify certain conducting gestures, does it follow that they will also be able to perform, on their instruments, various musical expressions indicated by the conducting gestures? Seeking the answer to this question among others was a prime motivation for undertaking this study.

Subjects

Subjects consisted of high school instrumentalists who were members of bands which had received "Superior" ratings in Class "B" in the large group contest sponsored by the Ohio Music Education Association during the past three years. From a total of 58 bands which met this criteria, four were randomly selected to participate in this study. The four bands consisted of 42 students in School 1, 60 students in School 2, 45 students in School 3, and 45 students in School 4.

Band members represented grades 9 through 12 according to the following percentages across the four schools: 9th grade = 13%; 10th grade = 23%; 11th grade = 36%; and 12th grade = 28%. The average number of years of private study on their major instrument was 3.3 and the average number of years of high school band experience on their major instrument was 5.7.

Each band director of the four bands selected to participate in the study had an average of 5 years teaching experience on the secondary level.

The communities in which the four participating schools are located are fairly diverse. School 1 is located in a community which
is known to be one of the wealthy western suburbs of Cleveland. School 2 is located in a community which can be described as a small city unto itself, surrounded in part, by farmland and adjacent to but not part of the Greater Cleveland area. School 3 might be considered similar to an inner city school. It is located in a medium large city near Cleveland. School 4 is part of a large school system located in a college community.

Pilot Study

A pilot study was conducted by the researcher to test some of the experimental procedures. A number of band students who were members of the researcher’s own high school band were asked to participate in the study. An attempt was made to simulate as much as possible, the major segments of the proposed experimental study.

After reviewing the materials and procedures used in the pilot study, several changes were made. Segments of the test materials were rewritten; one phase of the study was eliminated because of the time considerations upon determining that it was not germane to the purpose of the experiment. Certain methods and procedures were revised in order to facilitate the self-testing aspect of the study and to more effectively evaluate the outcome of the study. No attempt was made to collect or analyze data resulting from the pilot study.

Experimental Design

The principal independent variable in the study was the use of expressive conducting gestures to visually reinforce the expressive
markings: staccato, legato, marcato, accelerando, ritardando, crescendo, decrescendo, and fermata. This independent variable was manipulated so that in half of the melodies, expressive conducting gestures were used to indicate the eight expressive markings and in the other half, nonexpressive (time beating) conducting was used to simply indicate the beat in each measure.

In order to develop video test tapes to be used by students in the study, an initial master tape was produced. This tape consisted of two parts. Part I contained instructions for the testing procedure and it included a procedure in which students were asked to play eight four-measure, single-pitch exercises (see Appendix A). These were not conducted; a tempo preparation was given so that students would know when to begin to play. This part was recorded on the video tape but only the audio function was used, thus students listened to instructions while viewing a blank TV monitor. Part II contained the video taped conducting examples of the four melodies used for testing. The investigator was taped conducting two of the melodies with expressive gestures and two with nonexpressive time beating. After several brief additional instructions the conductor appeared on the monitor, named the melody to be performed, counted four tempo preparatory beats ("one, two, ready, play") and conducted the melody while the student performed the appropriate melodies from the music in which the appropriate expression markings were indicated.

From the master tape, a total of eight experimental tapes were dubbed, arranging the four melodies in eight different
counterbalanced, random orders (See Appendix C), in an attempt to control for order effect.

The students were used as their own controls. This involves exposing the same group to the different treatments, one treatment at a time. This helps to control for subject differences since the same subjects get both treatments.

The students and their respective band directors were given no specific information about the nature of the study but were given only necessary instructions pertinent to the completion of the study (See Appendices L and N).

 Procedures

Band directors were asked to rehearse the four project melodies (devoid of any markings) with their bands to insure that all notes and rhythms were played correctly (See Appendix M). They were allowed five minutes of rehearsal time for this purpose. Each student was then allowed to take the music home and practice it, if he felt the need, for three additional days.

Upon completion of the initial rehearsal segment of the melodies, all students were given a 9-question, multiple choice quiz which was designed to determine the student’s cognitive understanding of the eight musical markings found in the four melodies (see Appendix K).

Although the quiz was not formally validated, an attempt was made to increase reliability by (1) avoiding a predictable answer pattern such as ABC, ABC, ABC, etc., and (2) using all available
letters more or less equally as answers to the questions: if there are 9 questions and three choices for each question, A's, B's and C's should each be used three times. A ninth question, on related material, was included to satisfy the second aspect of reliability.

Eight of the nine items tested were directly related to those items which the students were asked to interpret in the performance of the four melodies. The results of the test therefore, enabled the researcher to make an intelligent assessment of the individual's musical performance of the eight expressive markings based on the student's knowledge and understanding of those expressive markings.

Following the three-day practice period, students from each school were asked to perform, on their major instrument, the four project melodies which now contained the eight expressive markings (See Appendix B). They performed the melodies, individually, in a private room designated especially for this purpose. The individual performance room contained a TV monitor, a VCR, a number of blank tapes arranged in numerical order, one folder entitled Part 1, Single Pitch Exercises, eight folders representing eight different orders of the four melodies, and an audio cassette tape recorder with a microphone.

The student was instructed to select the blank tape whose number corresponded to a preassigned number. Subjects were randomly assigned to one of the eight melody orders (See Appendix J). After having selected the tape which he would use to record his performance, he was to select the appropriate video tape, insert it
into the VCR, turn on the TV monitor and VCR and press the record button on the audio tape deck and the play button on the VCR. From this point on, all instructions were given on the video tape.

The student was to place the folder labeled Part I on the music stand and play through the 8 single pitch exercises guided by the audio instructions in the audio portion of the video tape.

Upon completion of Part I, the student was instructed to place the folder marked Part II, Project Melodies, Order (A-H) on the music stand. He was then asked to play through the four melodies following these instructions:

In a few moments, a conductor will appear on the video screen. He will give you 4 preparatory beats together with the words 1 - 2 - Ready - Play at which time you are to play through each melody, without stopping, at the speed indicated by the preparatory beats, observing all the musical symbols and expression markings indicated in the music, while also following the conductor.
There are four melodies
There will be 10 seconds of silence between each melody.

(Conductor appears)

Melody One ..... 1 - 2 - Ready - Play

The student did not know, in advance, which melody or melodies were to be conducted using treatment one (nonexpressive conducting) and which melody or melodies were to be conducted using treatment two (expressive conducting).

At the conclusion of the test, he was asked to rewind the video tape, turn off the power on all the equipment, remove the audio tape from the audio tape deck, and give the recorded tape to the band director. The testing period, approximately 15 minutes in length,
included audio instructions at the beginning and at the end of the video tape. The resulting recorded performance on the student's audio tape was approximately 81/2 minutes in length.

**Evaluation of Test Melodies and Video Tape**

Four melodies were composed for this study to determine the extent to which a performer is able to interpret expressive and stylistic markings within the context of a melodic line while simultaneously following a conductor.

A melody evaluation form was developed to determine the validity of certain aspects of the four melodies including such things as level of note difficulty, rhythm difficulty, degree of musicality, playing range, and the degree of appropriateness for the placement of the expression marks throughout each melody (See Appendix D).

A copy of the melody evaluation form was given to each of four judges. In addition, each judge received a copy of the flute part and was instructed to refer to the melodies in the flute part as they answered the questions on the form; a likert rating scale was used to answer each question.

Judges were then asked to view a video tape which contained a series of nonexpressive beat patterns and a series of expressive conducting gestures corresponding to the musical expressive markings indicated throughout each of the four 16-measure melodies. They were to determine the extent to which the beat patterns in the first segment of the tape, the nonexpressive gestures segment, were indeed nonexpressive (see Appendix E).
Before viewing the next segment on the tape, they were asked to read the Descriptions of Conducting Gestures provided with the form (see Appendix G). The eight descriptions provided the definitions for the eight conducting gestures used by the conductor on the video tape.

As they viewed the tape, the judges were asked to determine the extent to which the expressive conducting gestures indicated by the conductor were accurate portrayals of the expressive markings as described in the Descriptions of Conducting Gestures. (See Appendix F) The four judges asked to participate in the melody and tape evaluation were Doctoral students at Ohio State University with an average of 6 years teaching experience in instrumental music at the secondary level.

**Evaluation of Audio Performance Tapes**

The band director in each school was allowed to schedule his students to tape their music project performance in any manner which was convenient for him. The only limitation was that the completed student performance tapes were to be returned to the researcher within three weeks from the time he received the project.

Each performance tape was reviewed (spot-checked) to assure that all material which was supposed to be recorded was indeed recorded on the tape. Unsatisfactory tapes were discarded. The remaining tapes were given to each of 5 judges along with two evaluation forms, evaluation instructions (See Appendix O), a condensed score representing the four melodies, and a chart
indicating the various arrangements of the four melodies across the eight orders.

From a total of 139 tapes from the four schools, a 20% sample, 28 tapes was used to determine interrater level of agreements among the 5 judges. Stratified sampling determined the number of tapes to be selected from each school.

The appropriate number of tapes was randomly selected and dubbed so that each of the five judges received 28 of the same tapes (common tapes). The remainder of the tapes, 111, were selected by the same method of stratified sampling and random sampling and distributed randomly among the five judges. Each of four judges received 50 tapes and one received 51 for evaluation.

The judges were instructed to listen to the eight single-pitch exercises in Part I and rate the accuracy of the performance on a scale of 1-5, 1-totally inaccurate and 5-totally accurate (See Appendices H and I).

The same instructions applied to Part II, the four project melodies (Appendix E). The judges assigned to evaluate these tapes are solo and ensemble competition adjudicators for the Ohio Music Education Association. Their OMEA judging experience ranges from 5-20 years and their teaching experience on all levels (elementary, through high school) ranges from 10-25.

Data collected from the five judges along with other pertinent information, were fed into a computer for analysis.
Materials and Equipment

The video tapes used in the study were produced using a Maxell HGX Gold 120 video tape, a Panasonic Color Video Camera (WV3260-8AF), a Hitachi, 3-head HI FI Video Deck (VT1720A), and 2 Shure unidirectional condenser microphones (Model SM 94), placed approximately two feet from conductor on two, free-standing microphone stands. The video taping was accomplished in a high school band room with a green blackboard serving as a back drop. It was decided to use this environment in order to create as natural and as realistic a setting as possible.

Each school used its own VCR and TV monitor to view the video tapes. The band director in each school was asked to be sure to use a 19" TV monitor and a VHS video recorder. Beyond these two stipulations, it was felt that the two pieces of equipment need not be exactly the same in each school.

The student was to be placed approximately two feet from the monitor, in a seated position and the monitor placed on a cart in such a way that the student would need to tilt his head slightly to see the conductor on the video screen.

A Sony Dynamic microphone (FV072), a Teac Stereo Double reverse Cassette Deck (W450-R), and BASF Pure Chrome, Hi Bias series cassette tapes (K5oz), were used to record each student's music project performance. Identical equipment (tape deck, microphone, and cassette tapes) was used in each school to record student performances.
All music used in this study such as that used in the private performance room and music of the four melodies devoid of the markings (given to students at the beginning of the study period) and the music of the single pitch exercises was generated from a software disc called Laser Music Processor, Desktop Music Manuscript Editor, Version 3>1, 110011221, on an IBM Computer and printed on an H. P. Laser Jet III printer.

The 28 "common" performance tapes were dubbed on a Teac Stereo Double reverse cassette Deck, W450-R. The five performance judges used their own Hi Fi sound equipment to listen to the tapes for evaluation.

**Statistical Analyses**

Dependent measures in the study were analyzed using the analysis of covariate procedure. The ratings of the single pitch exercises were used as the covariate for the main effects analysis.

This approach was based on the assumption that performance of expression markings, unencumbered by notes and rhythms, would make a reasonable covariate given the purposes of the study.
CHAPTER IV
RESULTS

The purpose of this study was to determine the extent to which individual high school band musicians were able to respond to selected expression markings in the music while simultaneously following the conducting gestures of the conductor. Four high school bands, selected from a total of 58, each receiving a "Superior" rating in Class "B" of the Ohio Music Education Association Large Group Competition, were asked to participate in this study.

Four simple sixteen measure melodies were composed for the study. The students in each band were given a five minute rehearsal on the four melodies during which time note and rhythm errors were resolved. Immediately following the initial rehearsal, students were administered a multiple choice paper and pencil quiz to determine the extent of students' knowledge and understanding of the eight expression variables around which the experimental study was designed.

After a three-day practice period, each student was asked to individually perform the four melodies which included eight expression variables indicated throughout the melodic line, while simultaneously following the baton of a conductor on a television
monitor. The video taped conductor portrayed each of the eight "expression" elements within each melody with appropriate expressive conducting gestures as called for in the design. Half of the expression markings were conducted with nonexpressive beat patterns and half with expressive gestures.

Each student's performance was audio taped and given to one of five OMEA judges who then evaluated the performance accuracy of each of the eight expression variables in each melody on a rating scale of 1 - 5. The judges were not made aware of the two conducting conditions employed for each melody in order to insure unbiased evaluation of each student's performance.

Various analyses of the resulting evaluation scores revealed the extent to which high school band students with the ability to perform "Class B" band literature are able to accurately perform expressive elements while following the appropriate "expressive" conducting gestures of the conductor.

**Validation Judges' Interrater Agreement Levels**

A melody evaluation form was constructed and given to four judges for validation of the four melodies. They were asked to answer questions in reference to several aspects of the melodies to determine their validity for the purpose of this study.
A second series of evaluation forms were developed and used by the judges for the purpose of evaluating the conductor video tape. Based on their observation of the video tape, they were to determine whether the expressive conducting gestures were indeed accurate portrayals of the expressive markings as described in the Descriptions of Conducting Gestures.

The agreement figure on all pertinent questions from the two evaluation forms was determined as follows: a perfect agreement received 2 points (e.g., two judges rated a 5); a deviation of 1 from a perfect agreement received 1 agreement point (e.g., one judge rated a 5, the other rated a 4); a deviation of 2 from a perfect agreement received 1 disagreement (e.g., one judge rated a 5, the other rated a 3); and any amount beyond 2 from a perfect agreement received 2 disagreement points. To determine the interrater level, the total agreements were divided by the total agreements plus total disagreements. According to this procedure, the evaluation of the four melodies including the eight expressive markings contained therein yielded an interrater agreement level of .82, and an agreement level of .96 on the evaluation of the conductor video tape.

Performance Judges' Interrater Agreement Level

A total of 170 subjects were scheduled to participate in the study. However, due to a number of partially recorded performance tapes because of various circumstances, a final total of 139 tapes were usable for the analysis. The student performance tapes from the four schools were then distributed according to a stratified sampling
process, among the five judges, for evaluation. A 20% sample (28) of 
tapes was selected to determine the interrater agreement level among 
judges. The 28 tapes were chosen from the four schools using the 
stratified sampling technique; the tapes were then randomly chosen 
from each school and duplicated 4 times. Each judge received a set of 
28 "common" tapes along with his allotted portion of different tapes. 

In addition to the four recorded melodies, each student was 
first asked to record 8 four measure single pitch exercises each 
focusing on one of the eight expression variables found within the 
context of each melody. These sets of scores could then be used as a 
covariate with the melody scores to adjust the scores for student 
differences.

A separate analysis was conducted on each judge's exercise 
scores and melody scores. The agreement level calculation was similar 
to that used for melodies and video tape evaluation, i.e., each 
perfect agreement receives 2 agreement points, a deviation of 2 
receives 1 agreement point; a deviation of two receives 1 disagreement 
point and a deviation beyond two receives 2 disagreement points.

The interrater agreement level across all melody variables among 
the five judges was .82. Similarly, the interrater agreement level 
across the exercise variable among five judges, was also .82 (see 
Table 1).
Table 1

Interrater Agreement Levels Among Five Judges For Each Variable From The Set Of Melody Scores And From The Exercise Scores

<table>
<thead>
<tr>
<th></th>
<th>Melody</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerando</td>
<td>.85</td>
<td>.82</td>
</tr>
<tr>
<td>Crescendo</td>
<td>.85</td>
<td>.92</td>
</tr>
<tr>
<td>Decrescendo</td>
<td>.83</td>
<td>.85</td>
</tr>
<tr>
<td>Fermata</td>
<td>.92</td>
<td>.82</td>
</tr>
<tr>
<td>Legato</td>
<td>.60</td>
<td>.68</td>
</tr>
<tr>
<td>Marcato</td>
<td>.80</td>
<td>.75</td>
</tr>
<tr>
<td>Ritardando</td>
<td>.79</td>
<td>.81</td>
</tr>
<tr>
<td>Staccato</td>
<td>.91</td>
<td>.87</td>
</tr>
</tbody>
</table>

Single pitch exercises included in the test were used as a covariate in an analysis of covariance on the conducting conditions, expression markings, school, and their interactions.

Results

The expressive conducting gestures investigated in this study were selected mainly because of Sousa's (1988) research findings in which staccato, legato, marcato, crescendo, decrescendo, fermata and ritardando received a mean recognition score of over 80% among a total
high school population. Accelerando was added to balance the ritardando expression marking.

A three way analysis of variance was conducted on the melody performance score data for the following variables: (1) conducting gestures (expressive and nonexpressive); (2) expressive markings variable differences between accelerando, crescendo, decrescendo, fermata, legato, marcato, ritardando, and staccato; (3) the school variable; (4) the interaction between the conducting condition (expressive and nonexpressive gestures) and the eight expression variables; (5) the interaction between the conducting condition and school; (6) the interaction between the expression markings and school; and (7) the three-way interaction between the conducting condition, the expression variables, and school.

The results of the data analysis are reported in conjunction with the previously stated research questions in Chapter One. An ANOVA table, which summarizes the F-tests for all variables, is presented first (See Table 2). This is followed by a series of "means" tables in reference to the research questions.
Table 2

A Three-Way Analysis of Variance of Conducting Condition (Expressive and Nonexpressive)/Expression Markings/School

<table>
<thead>
<tr>
<th>Sources</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>873.908</td>
<td>873.908</td>
<td>619.80a</td>
</tr>
<tr>
<td>Conducting</td>
<td>1</td>
<td>43.012</td>
<td>43.012</td>
<td>30.51a</td>
</tr>
<tr>
<td>Expression Markings</td>
<td>7</td>
<td>1026.407</td>
<td>146.630</td>
<td>103.99a</td>
</tr>
<tr>
<td>School</td>
<td>3</td>
<td>177.235</td>
<td>59.078</td>
<td>41.90a</td>
</tr>
<tr>
<td>Conducting/Expression Markings</td>
<td>7</td>
<td>12.338</td>
<td>1.762</td>
<td>1.25</td>
</tr>
<tr>
<td>Conducting/School</td>
<td>3</td>
<td>4.213</td>
<td>1.404</td>
<td>1.00</td>
</tr>
<tr>
<td>Expression Markings/School</td>
<td>21</td>
<td>109.286</td>
<td>5.204</td>
<td>3.69</td>
</tr>
<tr>
<td>Conducting/Expression/School</td>
<td>21</td>
<td>17.205</td>
<td>.823</td>
<td>0.58</td>
</tr>
</tbody>
</table>

a-p<.0001.

(1) Is there a significant difference in the performance accuracy of selected expression markings indicated in the music as rendered by high school band musicians in response to two separate conducting conditions: (1) in which conductor is using expressive conducting gestures and (2) in which the conductor is using nonexpressive time-beating patterns?
A significant difference was found between the performance accuracy rating of selected expression markings as rendered in direct response to two separate conducting conditions. Each of the two mean scores represents the average of the sum of the performance accuracy of expression markings scores of the two melodies from each conducting condition (See Table 3).

Table 3

A Comparison Of Conducting Conditions (Expressive Versus Nonexpressive)

<table>
<thead>
<tr>
<th>Conducting Gestures</th>
<th>M</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive Conducting</td>
<td>2.99</td>
<td>.88</td>
</tr>
<tr>
<td>Nonexpressive Conducting</td>
<td>2.78</td>
<td>.86</td>
</tr>
</tbody>
</table>

As seen in Table 3, the average mean rating of the melodies conducted expressively was significantly higher than those conducted nonexpressively. While the mean differences may appear visually small, treatment effects were very significant.

(2) Are there significant differences among the performance accuracies of eight selected expression markings?
Table 4 shows significant differences among the performance accuracies of all eight expression markings. Among the expression markings investigated in this study, the fermata had the highest mean rating of 3.72 (See Table 4). This indicates that high school band students were able to perform the fermata with a relatively high degree of accuracy irrespective of the conducting conditions. To the contrary, it was interesting to note that band students had a much more difficult time achieving a comparable performance accuracy rating on the expression marking decrescendo (2.11). Apparently, band students were also unable to achieve a high degree of accuracy in the performance of a crescendo (2.42) and a marcato (2.45).

Table 4

A Comparison Of Expression Markings

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fermata</td>
<td>3.72</td>
<td>1.32</td>
</tr>
<tr>
<td>Legato</td>
<td>3.49</td>
<td>1.32</td>
</tr>
<tr>
<td>Ritardando</td>
<td>3.16</td>
<td>1.41</td>
</tr>
<tr>
<td>Accelerando</td>
<td>2.92</td>
<td>1.32</td>
</tr>
<tr>
<td>Staccato</td>
<td>2.79</td>
<td>1.51</td>
</tr>
<tr>
<td>Marcato</td>
<td>2.45</td>
<td>1.21</td>
</tr>
<tr>
<td>Crescendo</td>
<td>2.42</td>
<td>1.22</td>
</tr>
<tr>
<td>Decrescendo</td>
<td>2.11</td>
<td>1.04</td>
</tr>
</tbody>
</table>
(3) Is there a significant difference among the performance accuracies of expression markings across the four schools? There were significant differences among all schools, the largest of which was between School 2 and School 3 (See Table 5).

Table 5

A Comparison Of School Means

<table>
<thead>
<tr>
<th>School</th>
<th>M</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>2.89</td>
<td>.85</td>
</tr>
<tr>
<td>School 2</td>
<td>3.13</td>
<td>.89</td>
</tr>
<tr>
<td>School 3</td>
<td>2.41</td>
<td>.68</td>
</tr>
<tr>
<td>School 4</td>
<td>3.04</td>
<td>.91</td>
</tr>
</tbody>
</table>

Notice the wide difference in both the means and the standard deviation between School 3 and the other three schools. It seems quite obvious from these figures that School 3 had significantly lower scoring students than did the other schools not regarding the difference in conducting conditions. In other words, students in School 3 are not able to perform any of the variables when they are indicated in the music whether they are following the conductor or not.
as well as students in the other three schools. This raises some
questions as to the difference in abilities between schools yet, all
four schools received a "Superior" rating at OMEA contest.

(4) Is there a significant interaction between the conducting
condition (expressive or nonexpressive) and the eight expression
markings? Which markings are significantly aided by expressive
gestures?

There was no significant interaction between the expressive and
nonexpressive conducting conditions and the eight expression markings. 
While there was no sizeable interaction of these variables, it is
interesting to compare means of the eight expression markings under the
two conditions of conducting (See Table 6), for example the crescendo,
the marcato, and the staccato expression markings seemed to be aided
the most by expressive conducting gestures. All the expression
variables seemed to be helped by the expressive conducting even though
the differences were not great. The one exception was the legato which
showed no difference between the two conducting techniques.
Table 6

Expressive Gestures (E) and Nonexpressive Gestures (N) By Expressive Markings including mean differences (MD)

<table>
<thead>
<tr>
<th></th>
<th>(E)</th>
<th></th>
<th>(MD)</th>
<th></th>
<th>(N)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>sd</td>
<td></td>
<td>M</td>
<td>sd</td>
<td></td>
</tr>
<tr>
<td>Accelerando</td>
<td>2.96</td>
<td>1.33</td>
<td>.08</td>
<td>2.88</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td>Crescendo</td>
<td>2.59</td>
<td>1.24</td>
<td>.34</td>
<td>2.25</td>
<td>1.19</td>
<td></td>
</tr>
<tr>
<td>Decrescendo</td>
<td>2.22</td>
<td>1.07</td>
<td>.22</td>
<td>2.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Fermata</td>
<td>3.84</td>
<td>1.28</td>
<td>.24</td>
<td>3.60</td>
<td>1.42</td>
<td></td>
</tr>
<tr>
<td>Legato</td>
<td>3.49</td>
<td>1.34</td>
<td>.00</td>
<td>3.49</td>
<td>1.30</td>
<td></td>
</tr>
<tr>
<td>Marcato</td>
<td>2.59</td>
<td>1.23</td>
<td>.28</td>
<td>2.31</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>Ritardando</td>
<td>3.26</td>
<td>1.40</td>
<td>.19</td>
<td>3.07</td>
<td>1.42</td>
<td></td>
</tr>
<tr>
<td>Staccato</td>
<td>2.94</td>
<td>1.50</td>
<td>.28</td>
<td>2.66</td>
<td>1.50</td>
<td></td>
</tr>
</tbody>
</table>
(5) Was there significant interaction between conducting conditions and school?

There was no significant interaction between conducting conditions and schools (See Table 7). Although School 3 scored lower than other schools in both conditions of conducting, students in all schools performed the expression markings more accurately when aided by expressive conducting gestures. It seemed that students from School I benefited the most from expressive conducting. School 3 students scored the smallest difference between two conditions.

(6) Is there a significant interaction between the eight selected expression markings and the four schools?

The mean scores in Table 8 show that there is a wide variety of differences among the expression markings as they were affected by the four schools. For example, the mean scores for the expression markings for School 1 ranged from 1.97 for decrescendo and 3.84 for fermata. There is almost a 2.0 difference between two of the expression variables for one school. One other interesting observation in Table 8 is the fact that School 1 was the only school of the four schools in the study which had such a wide range of differences among the eight expressions although differences in the expression markings are also present in the other schools. Nonetheless, there was no significant interaction between the schools and expression markings.
Table 7

A Comparison Of Conducting Condition (Expressive-E-and Non-Expressive-N) By School

<table>
<thead>
<tr>
<th>School</th>
<th>E</th>
<th>sd</th>
<th>N</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>3.03</td>
<td>.84</td>
<td>2.75</td>
<td>.85</td>
</tr>
<tr>
<td>School 2</td>
<td>3.24</td>
<td>.89</td>
<td>3.03</td>
<td>.84</td>
</tr>
<tr>
<td>School 3</td>
<td>2.46</td>
<td>.69</td>
<td>2.36</td>
<td>.67</td>
</tr>
<tr>
<td>School 4</td>
<td>3.15</td>
<td>.91</td>
<td>2.94</td>
<td>.90</td>
</tr>
</tbody>
</table>

Table 8

A Comparison Of Expression Markings By School

<table>
<thead>
<tr>
<th>Marking</th>
<th>Sch. 1</th>
<th>sd</th>
<th>Sch. 2</th>
<th>sd</th>
<th>Sch. 3</th>
<th>sd</th>
<th>Sch. 4</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerando</td>
<td>3.27</td>
<td>1.29</td>
<td>3.20</td>
<td>1.27</td>
<td>2.18</td>
<td>1.17</td>
<td>2.88</td>
<td>1.25</td>
</tr>
<tr>
<td>Crescendo</td>
<td>2.19</td>
<td>1.19</td>
<td>2.67</td>
<td>1.22</td>
<td>1.97</td>
<td>1.06</td>
<td>2.85</td>
<td>1.22</td>
</tr>
<tr>
<td>Decrescendo</td>
<td>1.97</td>
<td>.98</td>
<td>2.39</td>
<td>1.01</td>
<td>1.74</td>
<td>.84</td>
<td>2.30</td>
<td>1.20</td>
</tr>
<tr>
<td>Fermata</td>
<td>3.84</td>
<td>1.34</td>
<td>4.06</td>
<td>1.08</td>
<td>3.23</td>
<td>1.46</td>
<td>3.53</td>
<td>1.44</td>
</tr>
<tr>
<td>Legato</td>
<td>3.31</td>
<td>1.30</td>
<td>3.59</td>
<td>1.27</td>
<td>3.33</td>
<td>1.37</td>
<td>3.74</td>
<td>1.31</td>
</tr>
<tr>
<td>Marcato</td>
<td>2.33</td>
<td>1.15</td>
<td>2.68</td>
<td>1.21</td>
<td>1.88</td>
<td>1.02</td>
<td>2.91</td>
<td>1.22</td>
</tr>
<tr>
<td>Ritardando</td>
<td>3.30</td>
<td>1.37</td>
<td>3.37</td>
<td>1.32</td>
<td>2.63</td>
<td>1.42</td>
<td>3.30</td>
<td>1.43</td>
</tr>
<tr>
<td>Staccato</td>
<td>2.90</td>
<td>1.55</td>
<td>3.06</td>
<td>1.50</td>
<td>2.32</td>
<td>1.49</td>
<td>2.80</td>
<td>1.40</td>
</tr>
</tbody>
</table>
(7) Is there a significant interaction between the conducting condition (expressive and nonexpressive), the eight select expression markings, and the four schools?

Table 9 shows that there is no significant interaction among conducting gestures, expression markings, and the four schools. Differences in mean ratings are apparent between school 3 and other schools both between the two conducting conditions and among the eight "expression" markings. Notice that the only school that achieved a mean score of over 4.0 and on only one of the expression markings, fermata, was School 2. Of all the expression markings, fermata had higher mean scores when performed with expressive conducting gestures across four schools.
Table 9

A Summary Table Of Mean Scores By Conducting Condition (Expressive and Nonexpressive), By Expression Markings, By Schools

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>L</th>
<th>M</th>
<th>R</th>
<th>S</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Con=E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S 1</td>
<td>3.28</td>
<td>2.48</td>
<td>2.12</td>
<td>3.93</td>
<td>3.34</td>
<td>2.54</td>
<td>3.40</td>
<td>3.15</td>
<td>3.03</td>
</tr>
<tr>
<td>C 2</td>
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<td>2.82</td>
<td>2.5</td>
<td>4.15</td>
<td>3.63</td>
<td>2.89</td>
<td>3.36</td>
<td>3.23</td>
<td>3.24</td>
</tr>
<tr>
<td>H 3</td>
<td>2.17</td>
<td>1.97</td>
<td>1.83</td>
<td>3.39</td>
<td>3.23</td>
<td>1.95</td>
<td>2.8</td>
<td>2.38</td>
<td>2.47</td>
</tr>
<tr>
<td>O 4</td>
<td>2.91</td>
<td>3.07</td>
<td>2.39</td>
<td>3.75</td>
<td>3.75</td>
<td>2.95</td>
<td>3.46</td>
<td>2.88</td>
<td>3.15</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.92</td>
<td>2.59</td>
<td>2.21</td>
<td>3.81</td>
<td>3.49</td>
<td>2.58</td>
<td>3.26</td>
<td>3.91</td>
<td>2.97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>L</th>
<th>M</th>
<th>R</th>
<th>S</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Con=N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S 1</td>
<td>3.26</td>
<td>1.89</td>
<td>1.84</td>
<td>3.75</td>
<td>3.28</td>
<td>2.12</td>
<td>3.20</td>
<td>2.66</td>
<td>2.75</td>
</tr>
<tr>
<td>C 2</td>
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<td>2.52</td>
<td>2.27</td>
<td>4.04</td>
<td>3.54</td>
<td>2.48</td>
<td>3.38</td>
<td>2.89</td>
<td>3.03</td>
</tr>
<tr>
<td>H 3</td>
<td>2.18</td>
<td>1.97</td>
<td>1.66</td>
<td>3.97</td>
<td>3.43</td>
<td>1.81</td>
<td>2.46</td>
<td>2.28</td>
<td>2.36</td>
</tr>
<tr>
<td>O 4</td>
<td>2.85</td>
<td>2.64</td>
<td>2.01</td>
<td>3.32</td>
<td>3.73</td>
<td>2.9</td>
<td>3.14</td>
<td>2.73</td>
<td>2.94</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.85</td>
<td>2.26</td>
<td>1.95</td>
<td>3.55</td>
<td>3.5</td>
<td>2.33</td>
<td>3.05</td>
<td>2.64</td>
<td>2.77</td>
</tr>
<tr>
<td>E + N</td>
<td>2.89</td>
<td>2.43</td>
<td>2.08</td>
<td>3.68</td>
<td>3.5</td>
<td>2.46</td>
<td>3.16</td>
<td>2.78</td>
<td>2.87</td>
</tr>
</tbody>
</table>

=Accelerando C=Crescendo D=Decrescendo F=Fermata
L=Legato M=Marcato R=Ritardando S=Staccato

Sch 1 2.89
Sch 2 3.14
Sch 3 2.42
Sch 4 3.05
Additional sub-questions addressed in the study are:

(1) Are there notable demographic differences among the band subjects who participated in this study from the four different schools? To what extent, if any, do these differences affect the performance accuracy ratings of the selected musical expression markings regardless of conducting conditions?

The significant differences which exist between the mean scores of the performance accuracy of expression markings among the four schools are probably attributable to subjects background such as number of years of private lessons on the major instrument, number of years of band experience on the major instrument, and number of years of piano lessons.

Table 10 is a summary table of background information an all subjects who participated in this study by schools. The assumption can be made that the kind of information that is presented here would have some relationship to the respective mean scores of the expression markings. For example, School 3 shows the highest average number of years of private lessons among 44% of its band (See Table 10), however, it scored the lowest among the four schools in overall total mean score ratings on performance accuracy.

Note that School 2 had the highest mean score in performance accuracy ratings of the expression variables (See Table 5); however, it scored lower than School 1 on mean number of years of private lessons. School 2 scored the lowest of the other schools when comparing mean score years of band experience on major instrument.
Table 10

Average Years Of Playing Experience On Major Instrument

<table>
<thead>
<tr>
<th></th>
<th>Sch 1</th>
<th>Sch 2</th>
<th>Sch 3</th>
<th>Sch 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>37</td>
<td>42</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>n = 139</td>
<td>6.0</td>
<td>5.43</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>M = 5.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentage Of Students Currently Taking Or Having Taken Private Lessons And Average Years Of Private Lessons Across All Subjects

<table>
<thead>
<tr>
<th></th>
<th>Sch 1</th>
<th>Sch 2</th>
<th>Sch 3</th>
<th>Sch 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 139</td>
<td>37</td>
<td>42</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>M = 3.3</td>
<td>3.3</td>
<td>3.0</td>
<td>4.0</td>
<td>2.9</td>
</tr>
<tr>
<td>62%</td>
<td>48%</td>
<td>44%</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

Percentage Of Students Currently Taking Or Having Taken Piano Lessons And Average Years Of Private Lessons Across All Subjects

<table>
<thead>
<tr>
<th></th>
<th>Sch 1</th>
<th>Sch 2</th>
<th>Sch 3</th>
<th>Sch 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 139</td>
<td>37</td>
<td>42</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>M = 3.38</td>
<td>5.9</td>
<td>3.3</td>
<td>0.0</td>
<td>4.3</td>
</tr>
<tr>
<td>46%</td>
<td>36%</td>
<td>0%</td>
<td>14%</td>
<td></td>
</tr>
</tbody>
</table>
(2) To what extent is possessing the technical ability and skill to accurately perform the selected expression variables in this study a factor in the accurate performance of the same variables within the context of a melodic line?

A comparison with the same expression markings performed as single pitch exercises, where the performer was able to concentrate all his skill and mental energies on the expression markings reveals that each of the markings had a higher performance accuracy mean score than did its counterpart which was performed as part of the melodic line (See Table 11). Legato had among the highest mean score ratings when performed in both contexts. Marcato scored the highest of all the expression variables in the single pitch exercises (3.97) and scored among the lowest (2.45) as performed in the melodies. The fermata had among the highest mean scores in both the project melodies, and the single pitch exercises. One can draw a conclusion that because high school band musicians are able to perform a particular expression marking to a relatively high degree of accuracy when existing by itself, unencumbered by different notes and rhythmic patterns, this is no guarantee that the same expression marking can be performed equally as well when part of a melodic line.
Table 11

A Comparison Of Expression Markings From Melodies And From Exercises

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>L</th>
<th>M</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melodies</td>
<td>2.92</td>
<td>2.41</td>
<td>2.11</td>
<td>3.71</td>
<td>3.48</td>
<td>2.45</td>
<td>3.16</td>
<td>2.79</td>
</tr>
<tr>
<td></td>
<td>1.32</td>
<td>1.22</td>
<td>1.04</td>
<td>1.35</td>
<td>1.32</td>
<td>1.21</td>
<td>1.41</td>
<td>1.51</td>
</tr>
<tr>
<td>Exercises</td>
<td>3.36</td>
<td>3.33</td>
<td>2.79</td>
<td>3.76</td>
<td>3.58</td>
<td>3.97</td>
<td>3.35</td>
<td>3.30</td>
</tr>
<tr>
<td></td>
<td>1.42</td>
<td>1.17</td>
<td>1.47</td>
<td>1.01</td>
<td>1.25</td>
<td>1.16</td>
<td>1.47</td>
<td>1.98</td>
</tr>
</tbody>
</table>

(3) Is there a notable difference between the performance accuracy of woodwind and brass student performances across the four schools?

A glance at Table 12 will show that there is, indeed a significant difference among the performance accuracy ratings of each of the eight expression markings. Each band subject generated a total of 32 performance ratings across the eight different expression variables in each of the four melodies. Based on the sum of each subject’s scores, a mean was computed. They represented the mean score of all thirty two scores for each subject across the four melodies.
The average mean score of all students' scores are shown in the various tables by schools and by woodwinds and brass sections within each school. A summary of extreme individual mean scores from highest to lowest within the woodwind section, the brass section, and for the entire band population of each school is also included in the table.

Table 12

Comparison Of Means Of Student Total Scores By Woodwind/Brass Section/School

<table>
<thead>
<tr>
<th></th>
<th>WW</th>
<th>Br.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>M 3.02</td>
<td>2.67</td>
<td>2.85</td>
</tr>
<tr>
<td></td>
<td>n 22</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>4.41-2.15</td>
<td>4.72-1.53</td>
<td>4.72-1.53</td>
</tr>
<tr>
<td>School 2</td>
<td>M 3.22</td>
<td>3.0</td>
<td>3.11</td>
</tr>
<tr>
<td></td>
<td>n 23</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>4.53-1.84</td>
<td>4.28-2.96</td>
<td>4.53-2.96</td>
</tr>
<tr>
<td>School 3</td>
<td>M 2.44</td>
<td>2.35</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>n 23</td>
<td>09</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3.78-2.25</td>
<td>3.09-1.16</td>
<td>3.78-1.16</td>
</tr>
<tr>
<td>School 4</td>
<td>M 3.2</td>
<td>2.25</td>
<td>2.73</td>
</tr>
<tr>
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<td>07</td>
<td>28</td>
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<td></td>
<td>4.31-2.25</td>
<td>2.69-1.59</td>
<td>4.31-1.59</td>
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</tbody>
</table>
(4) To what extent does knowledge and understanding of selected musical expression markings seem to be a factor in the performance accuracy of each musical marking irrespective of expressive conducting gestures?

At the beginning of the research period, all students were administered a nine question, multiple choice, paper and pencil quiz which served to determine the extent to which students had a fundamental knowledge and understanding of the eight expression variables they were soon to be asked to perform. No statistical analysis was performed on the quiz results because of the nature of the quiz, although some interesting observations may have some significance. For example, it is curious to note that marcato had one of the lowest performance mean score of all other variables. In addition, 24 of the 36 incorrect answers recorded by the total sample on the quiz originated from school 3, one of the lowest scoring groups in many areas of the project. Also, the majority of the wrong answers were on the definition of marcato, one of the lower scoring variables throughout the experiment. There seems to be some relationship between knowledge of the terms on the quiz and the performance of those musical terms on the instrument.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

Purpose

The purpose of this study was to determine the extent to which individual high school band musicians were able to respond to indicated expression markings in the music while simultaneously following the conducting gestures of the conductor. The experimental procedure employed in this research sought to compare the performance accuracy of selected expression markings under two conditions: (1) using expressive conducting gestures and (2) using nonexpressive conducting gestures, simply time beating. Instrumental performers would seem to respond to expressive and nonexpressive conducting gestures in varying degrees. The study examined the degree of accuracy of eight commonly used musical expression markings. The study further sought to determine the differences in performance accuracies between the eight selected expression markings disregarding the method of conducting used to elicit the musical response. In addition, the study investigated the differences of the performance ratings among the four schools which participated in the study and examined possible interactions.
As the design of the study unfolded, it was decided that it might be of interest to discover the relationship between the cognitive understanding of musical expression markings and the ability to perform the same musical expression markings when occurring within the context of a melodic line. These became sub-issues of the study.

The eight musical expression markings selected for the current experimental research were: accelerando, crescendo, decrescendo, fermata, legato, marcato, ritardando, and staccato. The selection of these particular expression indications were chosen because, according to Sousa's (1988) study, these expressive factors were among the most commonly recognized by high school band musicians except for the accelerando. It seemed reasonable that a related research study should be undertaken to determine if high school instrumental students are able to respond appropriately to these expressive variables as they are portrayed by expressive conducting gestures, while performing on their instruments. The effects of expressive conducting were compared to nonexpressive time beating.

Procedures

Four high school bands, involved in the study, were from the northern part of Ohio. They were randomly selected from a list of bands which had received a "Superior" rating in the annual District Large Group Band Competition sponsored by the Ohio Music Education Association.
Testing resulted in a total of 139 subjects from the four selected schools. At the beginning of the research period, subjects were given four sixteen-measure melodies without expression indications. They were given three days to learn the rudimentary rhythms and notes contained therein because they were subsequently asked to perform the melodies with expression markings indicated while following a conductor. The melodies had been previously validated by four Ohio State doctoral students who served as evaluators. The evaluation resulted in an intrarater agreement level of .82.

At the end of the three day practice period, each student was asked to perform the four melodies, alone, in front of a TV monitor and was asked to record the performance on an audio tape recorder. The test melodies now contained expression markings placed throughout. The student was instructed to perform the music while simultaneously following the conductor, who appears on the TV monitor. The student's attention was not drawn to the fact that two of the melodies are conducted with nonexpressive beat patterns and two with expressive gestures. The purpose was to examine whether the student is able to respond more accurately to expression markings with or without the conductor's help.

Before the melody testing, the student was also asked to perform and record eight single pitch exercises, each focusing on one of the eight selected variables. This was included to determine if the student has the fundamental skill and ability to perform the research variables unencumbered by notes and rhythms. The results from this test were used as the covariate in the analysis of the data.
At the conclusion of the research period (three weeks), the tapes were collected and distributed to five OMEA contest judges for evaluation and rating. A "common" set of tapes (20% of the total tapes) were dubbed and given to all five judges to determine reliability. The result was an interrater level of .82. Data and analyses were generated from the completed evaluations.

Summary of Results

The results are discussed as they relate to the research questions.

(1) Is there a significant difference in the performance accuracy of selected expression markings indicated in the music as rendered by high school band musicians in direct response to two separate conducting situations: (1) in which the conductor used expressive conducting gestures and (2) in which the conductor used only nonexpressive time beating patterns?

Significant differences did result among the main effects of this study. A three-way analysis of variance was computed on several variables, one of which was the conducting condition with two levels: nonexpressive beat patterns and expressive gestures. The mean performance ratings of all students on the expressive/nonexpressive conducting gestures were analyzed with an F test and the result was a highly significant F value (30.51). The mean rating under expressive conducting was 2.99 compared to the nonexpressive conducting mean of 2.78 (1 = inaccurate; 5 = accurate).

(2) Are there significant differences among the performance accuracies of eight selected expression markings?
There were significant differences between expression marking scores. There was almost a 2 point spread between the lowest mean score and the highest mean score of the expression variables. The decrescendo scored the lowest among all the markings with a mean score of 2.11. The highest rated marking was the fermata, 3.74.

(3) Is there a significant difference among the four schools?

There was a significant difference among the performance rating scores of the four schools involved in the study. Schools 1, 2, and 4 had relatively high mean scores ranging from 2.89 - 3.13 while School 3 had a low mean rating of 2.41. The difference between School 3 and the school whose mean score was closest to School 3 was twice as much as the difference between the other three schools.

(4) Is there a significant interaction between the conducting condition (expressive or nonexpressive) and the eight expression markings? Which markings are significantly aided by expressive gestures?

There was no significant overall interaction between the conducting condition and the expressive markings. However, almost all of the eight musical expression variables were rated slightly higher in the expressive conducting condition as compared to the nonexpressive conducting condition. The mean differences range from as low as 2.22 for decrescendo and 3.84 for fermata. It is interesting to note that the legato marking was performed the same way under both conducting conditions. In other words, the performance of legato seemed unaffected by whether the conducting was expressive or nonexpressive.
(5) Was there significant interaction between conducting condition and school?

There was no significant interaction between the conducting condition and school. It should be noted that the mean differences between schools were slightly greater than they were when schools were considered by themselves without any other variables.

(6) Is there a significant interaction between the eight selected expression markings and the four schools?

While there was no significant interaction, there was considerable difference found between expression markings and schools. It should be noted that legato, once again, resulted in no difference in mean score between two schools. Fermata again scored highest in each school.

(7) Is there a significant interaction between the conducting condition (expressive and nonexpressive) the eight select expression markings, and (3) the four schools?

There was no significant three-way interaction between expression variables, conducting condition, and school. However, a relatively significant difference can be found between the two conducting conditions on the variables crescendo, legato and ritardando. Considerable differences can be found between schools on various expression variables, for example, mean scores between schools on the variable crescendo, performed without expressive conducting gestures, ranged between 1.89 and 2.64 compared with mean scores on the same variable crescendo, performed with expressive gestures, ranged between 1.97 and 2.82.
Sub questions addressed in this study are:

(1) Are there notable demographic differences among the band subjects who participated in this study from the four different schools? To what extent, if any, do these differences effect performance accuracy ratings of the selected musical expression markings regardless of conducting conditions?

No parametric statistical analysis was performed on this question, however, descriptive tables show that some differences do exist between schools regarding private lessons, piano lessons, and band experience on the major instrument. These differences may have affected the mean performance scores in an indirect way.

(2) To what extent is possessing the technical ability and skill to accurately perform the selected expression variables in this study a factor in the accurate performance of the same variables within the context of a melodic line?

A comparison of the mean scores from the test melodies and single pitch exercises revealed some interesting findings, for instance, all mean exercise scores were higher than test melody scores. Some were considerably higher. Marcato, when performed on a single pitch, received a mean rating of 3.97, and when performed within the context of a melodic line received a mean rating of 2.45. Legato had the smallest difference between the two situations: exercise mean - 3.58; melody mean, 3.48.

(3) Is there a notable difference between the performed accuracy of woodwind and brass student performances across the four schools?
The average mean of all the woodwind means across the four schools as compared to the average brass mean across the schools resulted in the following: woodwinds = 2.97; while brass = 2.56.

4) To what extent does knowledge and understanding of selected musical expression markings seem to be a factor in the performance accuracy of each musical marking irrespective of the type of conducting gestures used?

No statistical analysis was performed on the multiple choice paper-pencil quiz, however some important observations can be made from the results of the quiz. Marcato had one of the lowest mean performance scores throughout the test and the majority of wrong answers on the written quiz was on the term marcato. Additionally, two-thirds of the wrong answers were recorded by school 3, the same school with abundant low mean scores on the performance of the melodies.

Discussion

The condition of help or no help, expressive conducting or nonexpressive conducting has been the main focus of this study. It is the principal concern of research question number one. Are student performers able to respond appropriately to expressive conducting gestures? Should band directors take the time to perfect the art of conducting with the expectation that more musically sensitive performances will result? Based on the results of the current study, the more accurately selected expression markings are portrayed through expressive conducting gestures, the more accurate the performance should be regarding these expression markings.
The results of this study indicated that each variable namely accelerando, ritardando, crescendo, diminuendo, staccato, marcato, and legato, was performed more accurately when aided by the conductor's expressive gestures than when simply given a four beat nonexpressive time pattern. It seems that the legato variable was the only one of the expression markings used in this study that was unaffected by the two conditions of conducting.

Results showed that the fermata had the highest mean score of all the eight variables examined in this study. Under all testing conditions, instrumental performers in this study were able to perform the fermata almost perfectly. The mean score of the fermata when performed in the melodic line, 3.71, was almost identical to the mean score of the fermata when performed in the single pitch exercises, 3.76. Other scores, among the eight variables, ranged from 3.49 for legato to 2.11 for decrescendo.

The decrescendo variable had the lowest mean score of all the other variables. It is not surprising to realize that the decrescendo was found to be the most difficult expression to perform with a high degree of accuracy. Being able to perform a true decrescendo requires so many fine performing skills. Knowledge of breath control and air supply is essential for the performance of a successful decrescendo; in addition, a firm embouchure and the ability to breathe from the diaphragm are essential.

Because of the higher mean scores achieved on the expression markings (except legato), due to the added assistance of the expressive conducting gestures, one begins to wonder why the response
was more accurate under expressive conducting? The suggestion that some expression markings are more easily and quickly recognizable, as Sousa (1988) suggested in his study, may be reinforced by this study. If they are easily recognizable, then perhaps it follows that they may be more easily playable. Perhaps this theory may be tested in further research.

Each expression variable requires a different type of skill in order to perform it well. This, perhaps, could serve as an explanation for differences in mean scores of the expression markings.

The staccato (2.94) did not score as high as the ritardando (3.26) when comparing expression variables under the two conducting conditions. Staccato involves embouchure, and ability to tongue correctly, while ritardando requires simply that you slow down. However, the ritardando did not score as high as the legato, which suggests that there is more skill involved in performing the ritardando than there is in performing the legato. Ritardando involves the ability to judge how fast to slow down.

In every case except the legato, the expression variables scored differently in the same proportion under the two conducting conditions. In other words, ritardando scored higher than staccato with nonexpressive conducting by the same amount as it did with expressive conducting; this was generally true for all the variables except legato.

Because there was a suspicion that there would be a school effect, it was decided to examine and compare the mean scores of all the four schools. As one can see from Table 5, there was a
significant difference between the school mean scores. It seems that school 3 scored the lowest of the schools with a mean score of 2.41.

An examination of Table 10 will reveal the possible reasons for the differences in mean scores among the four schools. For instance, school 3, which scored the lowest among the schools, also had the lowest scores in percentage of students currently taking or having taken private lessons on a major instrument and lowest scores in percentage of students currently taking or having taken piano lessons. However, it scored slightly higher than one other school in average years of playing experience on the major instrument.

Despite the higher score in one area, there seems to be a notable relationship between higher years of experience on the major instrument and higher percentage of students involved in private lessons and piano lessons and higher mean scores on performance accuracy of expression variables.

Even though schools were different, and students had different backgrounds, mean scores were somewhat different between schools however, not enough to cause an interaction between conducting condition and schools. Therefore, regardless at which school the student performed the melodies with the conductor, each student responded relatively the same to the two conducting conditions.

Students who have been trained in fundamentals of playing will probably find it less difficult to follow a conductor in a performing situation. If students have the skill to perform some of the more difficult expression markings, then they may be able to respond positively to expressive conducting.
A close examination of the interaction of expression markings and schools will reveal that there were small differences between mean scores of the expression marks across the four schools. However, some expression marks were higher in some schools than in others. Staccato, for example scored highest in school 2, 3.06, as compared to 2.32 in school 3. This indicates that there was more variability among performance accuracy of the staccato variable across the four schools.

A summary table of the mean scores of conducting gestures, by the expression variables by school indicate some interesting findings. The accelerando variable scored very high under both conducting conditions with only .02 of a point separating the two. The higher mean was scored with expressive conducting gestures. The mean scores for fermata were very high across the four schools and across the two conducting conditions, an indication that students can play a fermata with a fair amount of ease regardless of which type of conducting is used or which school they are from. The legato marking was the only other of the eight markings which had mean scores similar to the fermata marking in every comparison within the three way interaction as indicated in Table 9.

It was felt that, considering the performance scores of student performers whose fundamental skills and abilities vary widely, might result in a distortion of the final results. In order to account for these varied abilities, it was decided to administer what, in a sense was a pretest in the form of eight four measure single pitch exercises, each focusing on one of the expression variables.
A three-way analysis of variance on the variables conducting, school, expression markings and their various interactions was computed for this study. The scores for the Single Pitch Exercises constituted the covariate of the ANOVA. Results from this pretest indicated that the sample subjects participating in this study were similar in playing abilities.

There were some differences in the backgrounds of many of the students depending what school they attended. However, since schools did not interact with other variables, this had no significant effect on the main effects of the study.

Prior knowledge and understanding of the expression markings did not seem to have a significant effect on other performance scores although it might be noted that school 3 which scored the lowest of the four schools recorded 24 incorrect answers by the band population compared to 6, 3, and 1, by the other three schools respectively. There seems to be some justification for noting an observable relationship between quiz scores and performance scores.

Prior knowledge and understanding of the expression markings did not seem to have a significant effect on other performance scores.

**Conclusions**

1. Instrumental high school students are able to respond successfully to expressive conducting gestures resulting in a significantly more accurate performance of selected expression markings than to nonexpressive gestures.

2. There are significant differences among the performance accuracy of the following eight expression markings: staccato, legato, marcato, fermata, accelerando, ritardando, crescendo, decrescendo.
(3) The decrescendo expression marking has a tendency to be performed the least accurately of all the expression markings.

(4) The fermata is performed more accurately than any other expression indication used in this study.

(5) Background differences such as years of private lessons and years of piano lessons, among sample high school instrumentalists, may affect performance of expression indications.

(6) Mean scores of performance accuracy of eight selected expression markings were generally higher among the woodwind players across all schools than the scores among the brass players across the four schools.

(7) Knowledge and understanding of the eight expression markings indications used in this study will not necessarily guarantee a positive relationship with the subsequent performance of these expression markings found in a melodic context.

Recommendations for Further Research

(1) Research needs to be undertaken to determine the extent to which other populations (college, junior high, and elementary level students) are able to accurately perform the same selected expression markings examined in this study in response to expressive and nonexpressive conducting gestures.

(2) A study should be conducted in which selected expression markings other than those reported in the current study, could be investigated. For example, expression markings denoting various dynamic levels (forte, piano), sudden changes in dynamics such as
fortepiano and pianoforte, and phrasing paired with their respective conducting gestures, could serve as the experimental variables.

(3) A research study should be undertaken in which a comparison could be made between the individual mean scores of the performance accuracy of the eight expression markings with performed group mean scores of the accuracy of each expression marking. In other words, determine the difference, if any, between mean scores of the performance accuracy of each expression marking when performed by the entire ensemble as opposed to the mean scores of the performance accuracy of each individual performance.

(4) The current study should be replicated employing string students of various grade levels, as subjects.
REFERENCES


Croft, Dr. James (1982). The education and training of the wind band conductor and reformer in the United States. School Musician, January, pp. 31-34; 38.


APPENDIX A

SINGLE PITCH EXERCISES
PART I
SINGLE PITCH EXERCISES
EXERCISE ONE

EXERCISE TWO

EXERCISE THREE

EXERCISE FOUR

EXERCISE FIVE

EXERCISE SIX

EXERCISE SEVEN

EXERCISE EIGHT
APPENDIX B

PROJECT MELODIES, MARKED
APPENDIX C

MELODY ORDERS AS APPLIED TO ORDERS A-H
CHART OF
MELODY ARRANGEMENTS AS APPLIED TO ORDERS A - H

ORDER A
1. MELODY ONE
2. MELODY TWO
3. MELODY THREE
4. MELODY FOUR

ORDER B
1. MELODY TWO
2. MELODY THREE
3. MELODY FOUR
4. MELODY ONE

ORDER C
1. MELODY THREE
2. MELODY FOUR
3. MELODY ONE
4. MELODY TWO

ORDER D
1. MELODY FOUR
2. MELODY ONE
3. MELODY TWO
4. MELODY THREE

ORDER E
1. MELODY FOUR
2. MELODY THREE
3. MELODY TWO
4. MELODY ONE

ORDER F
1. MELODY ONE
2. MELODY FOUR
3. MELODY THREE
4. MELODY TWO

ORDER G
1. MELODY TWO
2. MELODY ONE
3. MELODY FOUR
4. MELODY THREE

ORDER H
1. MELODY THREE
2. MELODY TWO
3. MELODY ONE
4. MELODY FOUR
APPENDIX D

MELODY EVALUATION FORM
Dear Band Director:

I am presently completing my doctoral degree in Music Education at Ohio State University. My Dissertation involves an examination of selected conducting gestures and their influence and degree of significance on musical performance.

The four original melodies I enclose for your evaluation will eventually serve to determine the extent to which a performer is able to read music while simultaneously following a conductor's expressive gestures.

Before using these melodies in the experimental situation, I need to determine the validity of certain aspects of the aforementioned excerpts. Your responses to the questions below will be invaluable to the results of the study.

Thank you for agreeing to offer your time and expertise to this project.

Sincerely,

Vincent Sidoti
MELODY EVALUATION FORM

Enclosed is a copy of the Flute part for the Project Melodies used in my Dissertation Study. They have been arranged to fall within the mid-range of the various band instruments.

Please refer to the melodies as you answer the questions below. A rating scale of 1 - 5 is provided as a method of evaluation. Please keep in mind the following background information as you decide on your rating:

1. Each melody will be given to a high school band instrumentalist from selected bands throughout Ohio capable of performing Class 'B' literature.

2. The Bands used in the study will rehearse the Melodies in unison for approximately twenty minutes after which they will be given an additional three days to continue practicing the notes and rhythms so that they will be able to perform the Melodies at the indicated metronome speeds.

3. Each student will then be asked to perform, individually, the four melodies, arranged in random order, under two separate conditions:

   Condition I - student performs expression markings indicated in the music while simultaneously following the conductor's non-expressive beat gestures.

   Condition II - student performs expression markings indicated in the music while simultaneously following the conductor's expressive conducting gestures.

QUESTION 1 - NOTES

Please rate the note difficulty of each melody (see reminders 1 and 2 above).

MELODY ONE

VERy EASY 1 2 3 4 5 VERY DIFFICULT

MELODY TWO

VERy EASY 1 2 3 4 5 VERY DIFFICULT

MELODY THREE

VERy EASY 1 2 3 4 5 VERY DIFFICULT

MELODY FOUR

VERy EASY 1 2 3 4 5 VERY DIFFICULT

COMMENTS:
QUESTION 2 - MUSICALITY
To what extent do you consider the musicality of each melody?

PROJECT MELODY ONE
UNMUSICAL 1 2 3 4 5 6 VERY MUSICAL

PROJECT MELODY TWO
UNMUSICAL 1 2 3 4 5 6 VERY MUSICAL

PROJECT MELODY THREE
UNMUSICAL 1 2 3 4 5 6 VERY MUSICAL

PROJECT MELODY FOUR
UNMUSICAL 1 2 3 4 5 6 VERY MUSICAL

COMMENTS:

QUESTION 3 - RHYTHM
a. Please rate the difficulty of the rhythm in each melody (see reminders 1 and 2 above).

PROJECT MELODY ONE
VERY EASY 1 2 3 4 5 6 VERY DIFFICULT

PROJECT MELODY TWO
VERY EASY 1 2 3 4 5 6 VERY DIFFICULT

PROJECT MELODY THREE
VERY EASY 1 2 3 4 5 6 VERY DIFFICULT

PROJECT MELODY FOUR
VERY EASY 1 2 3 4 5 6 VERY DIFFICULT

COMMENTS:
b. Which measure of each melody (in your opinion) contains the most difficult rhythmic pattern as it pertains to performance (see reminders 1 and 2 above)? Please rate the level of difficulty of the stated rhythmic pattern.

PROJECT MELODY ONE

MEASURE______CONTAINS THE MOST DIFFICULT RHYTHMIC PATTERN

EASY 1____2____3____4____5____ DIFFICULT

PROJECT MELODY TWO

MEASURE______CONTAINS THE MOST DIFFICULT RHYTHMIC PATTERN

EASY 1____2____3____4____5____ DIFFICULT

PROJECT MELODY THREE

MEASURE______CONTAINS THE MOST DIFFICULT RHYTHMIC PATTERN

EASY 1____2____3____4____5____ DIFFICULT

PROJECT MELODY FOUR

MEASURE______CONTAINS THE MOST DIFFICULT RHYTHMIC PATTERN

EASY 1____2____3____4____5____ DIFFICULT

COMMENTS:

QUESTION 4 - PLAYING RANGE

To what extent is the playing range of each melody within the capability of the typical high school band instrumentalist capable of performing Class 'B' literature at the high school level?

PROJECT MELODY ONE

NOT WITHIN STUDENT 1____2____3____4____5____ WELL WITHIN STUDENT CAPABILITY

COMMENTS:
QUESTION 5 - EXPRESSION MARKINGS

a. To what extent is the appropriate conducting gesture necessary for the accurate performance of each of the eight expression marks used in this study?

FERMATA

UNNECESSARY 1 2 3 4 5 NECESSARY

CRESCEndo

UNNECESSARY 1 2 3 4 5 NECESSARY

DECRESCEndo

UNNECESSARY 1 2 3 4 5 NECESSARY

STACCATO

UNNECESSARY 1 2 3 4 5 NECESSARY
QUESTION 6 - CONDITION I

To what extent is each of the melodies appropriate in determining the ability of a high school band instrumentalist capable of performing Class 'B' literature at the high school level to accurately perform the eight expression markings indicated in the music while the conductor conducts the beat patterns using non-expressive gestures?

PROJECT MELODY ONE

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY TWO

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY THREE

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY FOUR

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

COMMENTS:

QUESTION 7 - CONDITION II

To what extent is each of the melodies appropriate in determining the ability of a high school band instrumentalist capable of performing Class 'B' literature at the high school level to accurately perform the eight musical expression markings indicated in the music while simultaneously following the expressive conducting gestures corresponding to the indicated markings?

PROJECT MELODY ONE

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY TWO

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY THREE

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

PROJECT MELODY FOUR

VERYNAPPROPRIATE 1____2____3____4____5____ VERY APPROPRIATE

COMMENTS:
APPENDIX E

VIDEO TAPE EVALUATION FORM
(NONEXPRESSIVE GESTURES)
VIDEO TAPE EVALUATION FORM

The video tape you will view contains a series of non-expressive beat patterns and a series of conducting gestures corresponding to the musical expression markings indicated throughout each of four 16 measure melodies. A copy of the 'Flute' part is provided with the tape.

First, please determine the extent to which the beat patterns in the beginning segment of the 'PART III - PROJECT MELODIES' portion of the tape, the 'Non-Expressive Gestures' segment, are indeed non-expressive.

Please circle the appropriate number on the rating scale which follows.

PART III - PROJECT MELODIES

Non-Expressive Beat Patterns

The following are definitely non-expressive beat patterns.

MELODY ONE
Strongly Agree 1 2 3 4 5 Strongly Disagree

MELODY TWO
Strongly Agree 1 2 3 4 5 Strongly Disagree

MELODY THREE
Strongly Agree 1 2 3 4 5 Strongly Disagree

MELODY FOUR
Strongly Agree 1 2 3 4 5 Strongly Disagree

Total ___

Before viewing the next portion of the tape, please read 'DESCRIPTIONS OF CONDUCTING GESTURES' provided with this form, defining the eight conducting gestures used by the conductor on this tape.

Then, please view the next segment of the 'PART III - PROJECT MELODIES' portion of the tape. This segment contains a series of expressive conducting gestures corresponding to the musical markings in the same four 16 measure melodies mentioned above.

Determine the extent to which the expressive conducting gestures indicated by the conductor are accurate portrayals of the expressive markings, as described in the 'DESCRIPTIONS OF CONDUCTING GESTURES.'
APPENDIX F

VIDEO TAPE EVALUATION FORM
(EXPRESSIVE GESTURES)
Place a circle around the appropriate number on the rating scale provided to indicate your evaluation.

PART III - PROJECT MELODIES

Expressive Conducting Gestures

The conducting gestures viewed on the tape are accurate portrayals of the following expressive markings:

MELODY ONE

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</tr>
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<td>Strongly Disagree</td>
</tr>
<tr>
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<td>Strongly Agree 1 2 3 4 5</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>decrescendo</td>
<td>Strongly Agree 1 2 3 4 5</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>ritardando</td>
<td>Strongly Agree 1 2 3 4 5</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>marcato</td>
<td>Strongly Agree 1 2 3 4 5</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>Fermata</td>
<td>Strongly Agree 1 2 3 4 5</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>crescendo</td>
<td>Strongly Agree 1 2 3 4 5</td>
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Total

MELODY TWO

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Total
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<td>Fermata</td>
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Total

### MELODY FOUR

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Total
APPENDIX G

DESCRIPTIONS OF CONDUCTING GESTURES
DESCRIPTIONS OF CONDUCTING GESTURES

STACCATO
Characterized by the momentary stop of all motion in the stick, hand, and arm immediately after the reflex.

LEGATO
A smooth, sustained, connected style. It is conducted with flowing, curved gestures that connect the points of beat in the meter pattern. The baton moves slowly between the beats with appropriate length and tension for the music being performed.

ACCELERANDO
Beat size is relative to tempo. Gradually increasing tempo is executed by increasing the speed between beat points and using smaller beat patterns as the speed of the beat is increased.

RITARDANDO
Gradually decreasing tempo is executed by decreasing the speed between beat and using larger beat points as the beat decreases in speed.

CRESCEndO
As the dynamics gradually increase, the gesture changes its size. Each succeeding beat gesture in the crescendo becomes gradually larger until the peak of the crescendo is reached. The crescendo may simultaneously be indicated by lifting the left hand, thump up, palm at an upward angle with increasing tension in the forearm.

DECRESCEndO
As the dynamics gradually decrease, the gesture changes its size. Each succeeding beat gesture in the decrescendo becomes gradually smaller until the lower end of the decrescendo is reached. The decrescendo may simultaneously be indicated by turning the palm of the left hand over gradually to face the players, lowering it slowly while continuing to turn it downward.

MARCATO
A heavy motion with a stop on each count. It is forceful, sometimes aggressive in character and medium to large in size.

FERMATA
As a general rule, either the right hand or left hand should remain in motion however slowly during a fermata to indicate that the sound is being sustained. If indicated in the left hand, the right hand may remain in the approximate position of the ictus.
APPENDIX H

SINGLE PITCH EXERCISES EVALUATION FORM
SINGLE PITCH EXERCISES EVALUATION FORM

PART I

PERFORMANCE NUMBER
DATE

SCHOOL __________________________________ INSTRUMENT _________________________ GRADE ______

ADJUDICATOR ________________________________________

* Treble Clef Fluta

EXERCISE ONE

STACCATO 1 2 3 4 5

EXERCISE TWO

DECRESCENDO 1 2 3 4 5

EXERCISE THREE

ACCELERANDO 1 2 3 4 5

EXERCISE FOUR

CRESCEndo 1 2 3 4 5

EXERCISE FIVE

FERMATA 1 2 3 4 5

EXERCISE SIX

LEGATO 1 2 3 4 5

EXERCISE SEVEN

RITARDANDO 1 2 3 4 5

EXERCISE EIGHT

MARCATO 1 2 3 4 5
APPENDIX I

PROJECT MELODIES EVALUATION FORM
### PART II

**PROJECT MELODRY**

**MUSICAL EXPRESSION MARKS**

**EVALUATION FORM**

<table>
<thead>
<tr>
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<th>INSTRUMENT</th>
<th>GRADE</th>
<th>ADJUDICATOR</th>
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**PERFORMANCE NUMBER**

**DATE**

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<td>staccato (★)</td>
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**TOTAL**
APPENDIX J

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APPENDIX K

MUSIC SURVEY QUIZ
MUSICAL MARKINGS SURVEY

Please select the best answer for the following questions regarding musical symbols and expression markings by drawing a circle around the correct letter.

1. The dot (.) placed above or below a musical note indicates to the performer that the note should be played:
   A. long and full.
   B. in a separated, detached style.
   C. loud and accented.

2. A marking which indicates a gradual increase in volume:
   A. ____________
   B. ( )
   C. ____________

3. This symbol ( ) above a note means:
   A. hold the note 3 extra beats.
   B. hold the note beyond its indicated value.
   C. play the note short and softly.

4. The musical marking 'rit.' or 'ritardando' indicates:
   A. gradually slowing the tempo.
   B. gradually increasing the tempo.
   C. gradually decreasing the volume.

5. The term 'marcato' indicated by the symbol ( ) placed above or below the note is performed:
   A. in a soft, half tongued style.
   B. in a smooth, connected style.
   C. in a heavy, separated style.

6. The symbol which is used to indicate gradually diminishing in volume and in intensity is:
   A. ____________
   B. A
   C. >

7. The musical marking 'accel.' or 'accelerando' indicates to the performer to:
   A. abruptly decrease the volume.
   B. gradually play faster.
   C. gradually play louder.
8. The indication which generally implies a return to original rate of speed is represented by the words:
   A. non troppo.
   B. con mosso.
   C. a tempo.

9. The legato marking (— ) placed over or under a series of notes indicates to the performer that the notes should be played:
   A. loudly but gradually diminishing in volume.
   B. in a short, detached manner.
   C. full value, without any perceptible space between the notes.
APPENDIX L

STUDENT DIRECTIONS BEFORE TAPING PERFORMANCE
DIRECTIONS FOR STUDENTS BEFORE BEGINNING THE MUSIC PROJECT

Thank you for your participation in this project. Your contribution will be very important to the outcome of this study.

PLEASE REVIEW THE FOLLOWING REMINDERS BEFORE YOU BEGIN:

1. Be sure your instrument is put together and ready to play before you put the Music Project Video Tape into the VCR.

2. Listen to the instructions on the Video Tape very carefully.

3. Please relax and get comfortable - play to the best of your ability - this is NOT an audition or an exam.

4. If you make a mistake during your performance, do not be concerned and do not go back to correct it - you will not have time.

5. The entire performance project will take 15 minutes.

GOOD LUCK AND THANK YOU AGAIN FOR YOUR COOPERATION.

PLEASE OBSERVE THE FOLLOWING STEPS BEFORE YOU BEGIN THIS PROJECT:

1. Find your AUDIO PERFORMANCE TAPE in the Audio Tape Case and place it near the audio tape recorder.
   The audio tapes are arranged in numerical order beginning with number 1. Be sure the number on the tape which you will use to record your performance corresponds with the performance number you found on the 'Musical Markings Survey.' (If you do not remember this number, ask your Band Director).

2. Find the VIDEO TAPE whose color code and order letter (A-H) corresponds with the color code and order letter on your AUDIO TAPE.
   The video tapes are arranged in alphabetical order (A - H) in the Video Tape Case.

3. Insert the VIDEO TAPE into the VCR.

4. Turn on the VCR.

5. Turn on the TV monitor and wait for a signal. (Be sure channel selector is turned to proper channel)

6. Press 'PLAY' on the VCR and follow the instructions given on the Video Tape.
APPENDIX M

PROJECT (TEST) MELODIES, UNMARKED
APPENDIX N

DIRECTIONS FOR BAND DIRECTOR
DIRECTIONS FOR BAND DIRECTOR

Thank you for participating in this project. Please observe the following steps during the two-week project period.

1. Please rehearse the four Project Melodies with your ensemble making sure notes and rhythms are correct. Do not spend more than 10 minutes on these melodies.

   Before rehearsing the melodies, please explain to your ensemble that there are no style indications or expression marks included with the notes; that they are to simply learn the notes and rhythms at the speed indicated. (♩ = 96)

   After playing through the melodies in rehearsal, they will be allowed 2 additional days to practice these melodies on their own, after which time they will be asked to perform the melodies on tape, individually, with the guide of a video tape. Each should perform the melodies to the best of their abilities.

   The entire video-guided music project should not take each student more than 15 minutes. All members of the ensemble should finish taping their individual video-guided performances within a two week period.

   At the conclusion of the 15 minute session, each student should be sure to give the completed audio performance tape to the Band Director.

2. After the initial 10 minute rehearsal of the melodies, please have all the students complete the top portion of the MUSICAL MARKINGS SURVEY and answer the 9 questions in the SURVEY. This should take no longer than 5 minutes.

   Each student will find a PERFORMANCE NUMBER in the upper right hand corner of the MUSICAL MARKINGS SURVEY. This number should correspond with the number which will be found on their audio performance tape.

3. Return the completed surveys to me. I will come to pick them up at your convenience.

4. Two days after I receive the completed Surveys, I will deliver the blank audio performance tapes identified by Performance Number, an audio tape recorder, the music project video tapes, and the music project folios.

5. Please arrange to have a TV monitor and a VCR-VHS recorder in a practice room or some other appropriate room where students can come, individually, and tape their video-guided performance. There should also be a chair and a music stand in the room.

6. Collect the completed audio performance tapes from each student as each completes the project.

7. Return all the completed audio performance tapes to me at the end of the two week period. I will come to pick them up along with the music folios, video tapes, and audio tape recorder, at your convenience.

I will send you a copy of the results of this study after its completion.
APPENDIX O

AUDIO TAPE EVALUATION INSTRUCTIONS FOR JUDGES

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AUDIO PERFORMANCE TAPES EVALUATION INSTRUCTIONS

Please listen to the Music Project - Audio Performance Tapes, making sure that the Performance Number on each tape corresponds with the Performance Number located in the upper right-hand corner of each evaluation form. Each tape contains approximately 15 minutes of recorded material.

There are two evaluation forms: Part I - Single Pitch Exercises; and Part II - Project Melodies - Musical Expression Marks.

Evaluation Instructions for Single Pitch Exercises

A reproduction of the 8 four-measure exercises performed on the first part of the tape is included on the Single Pitch Exercises Evaluation Form. Each student was asked to accurately perform each musical marking indicated in each exercise. Each musical marking is to be evaluated on a Likert scale 1-5 where 1 represents a totally inaccurate performance and 5 a completely accurate performance of each expression mark. Please circle one number on each scale which, in your judgement, best reflects the degree of accuracy of the performance of the expression markings.

Evaluation Instructions for Project Melodies

There are 4 sixteen-measure melodies (ONE - FOUR) arranged in 8 different orders (A - H). Each melody is provided with various expression markings. Each student was asked to accurately perform the various expression markings indicated in each melody.

As you listen to the performance of the 4 melodies which follow the single pitch exercises, please circle one number on the scale 1-5 (1 representing a totally inaccurate performance and 5 representing a completely accurate performance of the markings) which best reflects your evaluation of the degree of accuracy with which each musical expression marking is performed.

Before evaluating Part II - Project Melodies, please be sure that the COLOR CODE, ORDER LETTER, AND SCHOOL, all located at the top of the evaluation form, agree with the COLOR CODE, ORDER LETTER, AND SCHOOL indicated on the Audio Performance Tape.

You need not total the scores nor transfer any scores to the Summary Scores form located at the bottom of your evaluation form.

You may listen to each tape as many times as you find necessary.

You will find the musical markings indications in each melody on the Musical Expression Marks Evaluation Form arranged in the same order in which they are performed on the matching tape.

A condensed score of the four melodies and a chart indicating the various arrangements of the four melodies across the 8 orders are provided.